AUGUST 24, 1946

Railway Age

Founded in 1856

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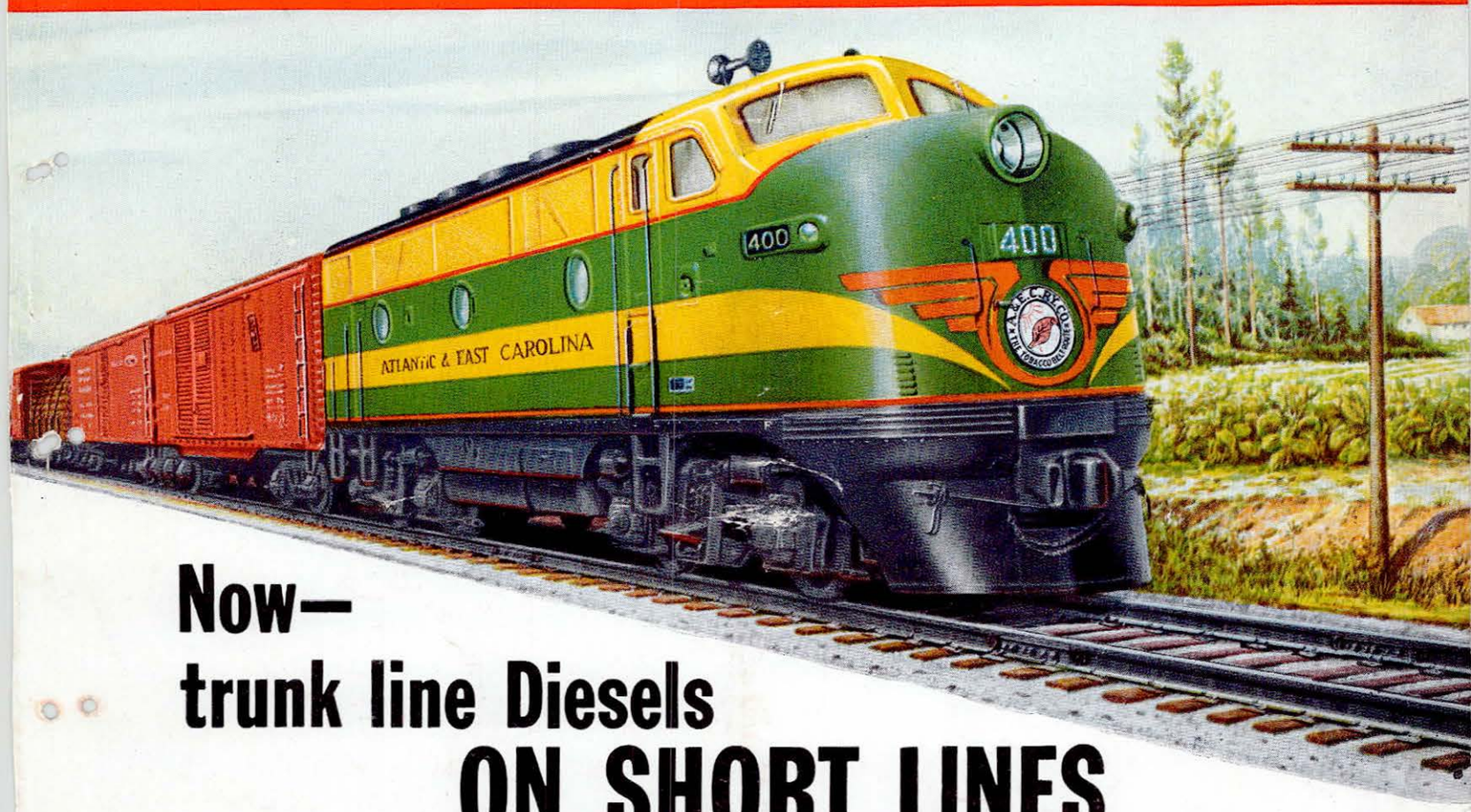


Now—
trunk line Diesels
ON SHORT LINES

A BRIGHT new era of modern motive power for short lines opens with the introduction of General Motors Diesels on "The Tobacco Belt Line."

The first mainline Diesel units in regular service on an American short line, two GM freight Diesels and one GM passenger Diesel go into operation on this 94 mile strip of the Atlantic and East Carolina Railway. The run is between Goldsboro and Moorehead City, N. C.—a vital transportation link in a strategic area—largely through rich agricultural country interspersed with industry.

These Diesels are particularly well suited to this kind of operation. Not only will they be interchangeable for freight or passenger service, but they will do their own switching at stops.

High availability, low maintenance and operating costs are of great importance here. Ability to sustain faster schedules will not only reduce need of extra stand-by power, but also make efficient use of existing track.

VETERANS IN PERFORMANCE

GENERAL MOTORS LOCOMOTIVES

YOUTHFUL IN STAMINA

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS • LA GRANGE, ILL.

NEED STEEL?

Here's the way to get it

Scrap is needed to produce new steel. You can help yourself and others by converting into scrap any obsolete material or material that has served its usefulness.

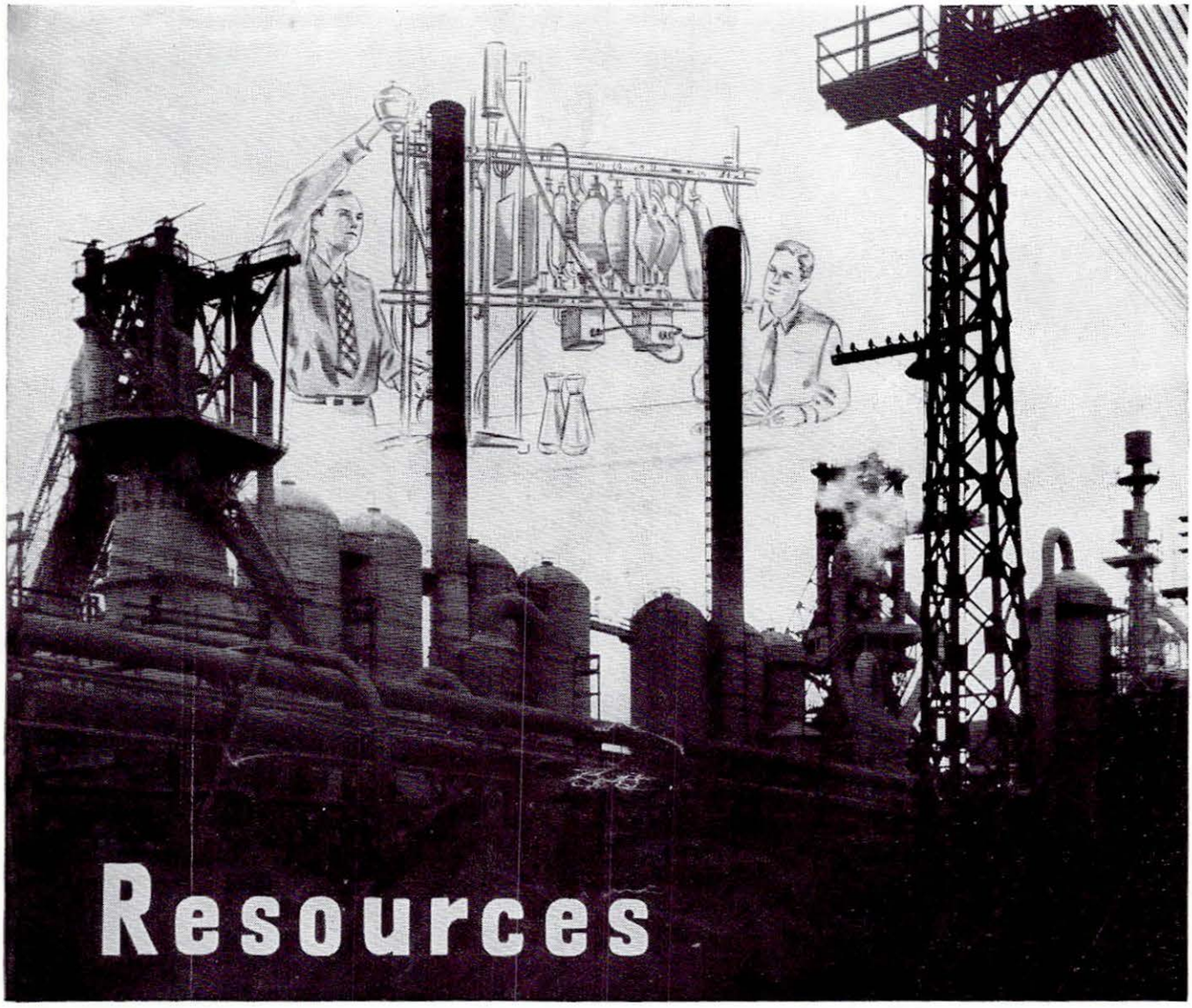
Flame-cutting is a fast and economical way to reduce steel to pieces of the right size for charging into furnaces for the production of new steel. Line up a scrapping program *now* — let Oxweld help your organization with the details.

THE OXWELD RAILROAD SERVICE COMPANY
Unit of Union Carbide and Carbon Corporation
UCC
Carbide and Carbon Building Chicago and New York

SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS

P-20462

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 121, No. 8.



The vast resources of the Inland Steel Company are important factors to volume users of steel.

Extensive mines and quarries...modern freighters...towering blast furnaces...the glowing open hearths and coke ovens... the powerful rolling mills, vibrant with action and life!

Activating these resources and modern facilities are Inland's experienced engineers and metallurgists applying their skills to every phase of development, production, and control...making certain that every ton of steel produced is worthy of the name...INLAND!

Yes, Inland has the resources to produce quality steel for you.

HELP! MORE SCRAP NEEDED!

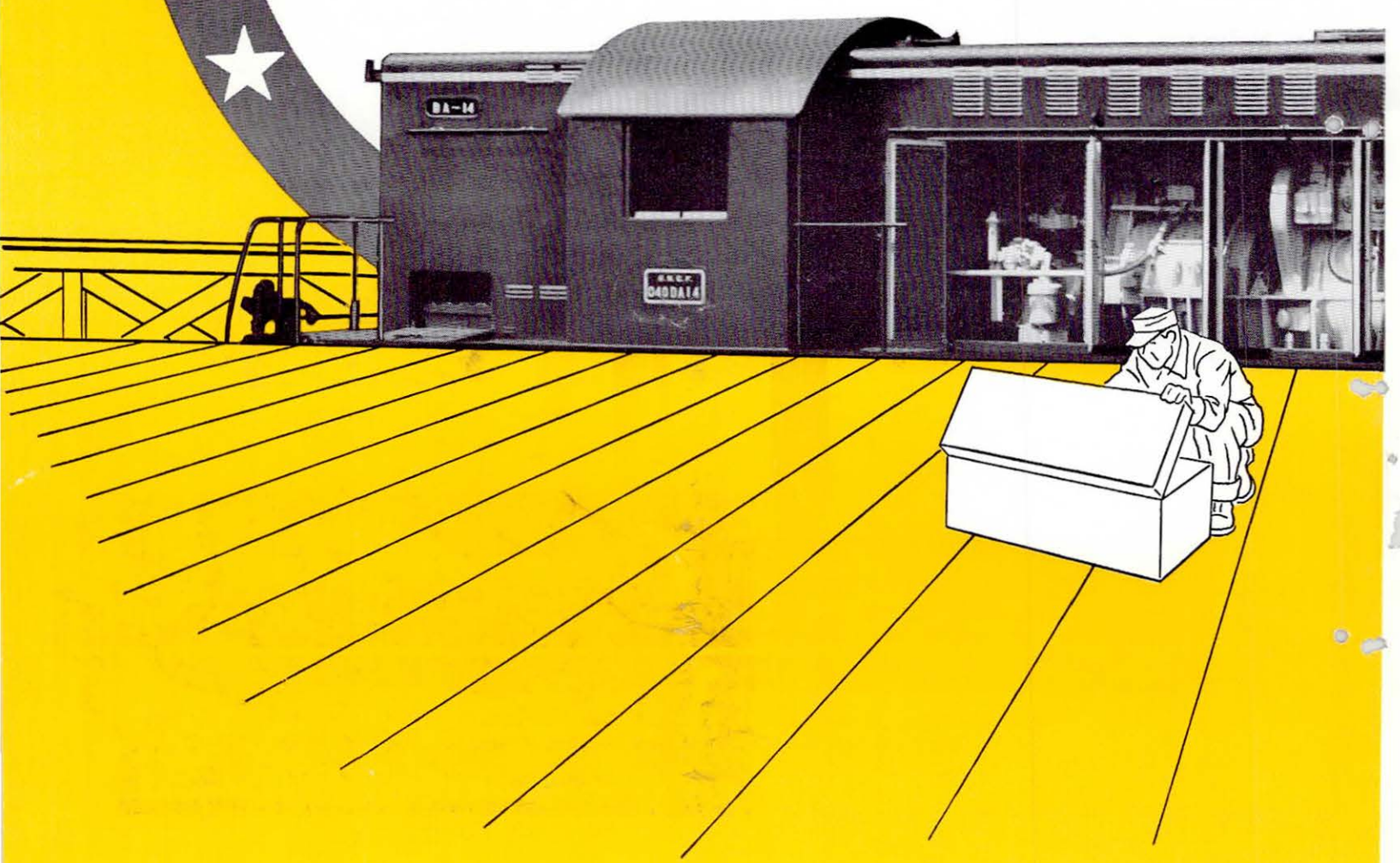
Extra tons of scrap are needed to make the extra tons of steel for American industry. Please keep your scrap moving back to the mills.

INLAND STEEL

● Inland Steel Company, 38 South Dearborn Street, Chicago 3, Illinois. Sales Offices: Detroit, Indianapolis, Kansas City, Milwaukee, New York, St. Paul, St. Louis.

PRINCIPAL PRODUCTS: BARS • STRUCTURALS • PLATES • SHEETS • STRIP • TIN PLATE • FLOOR PLATE • PILING • REINFORCING BARS • RAILS • TRACK ACCESSORIES

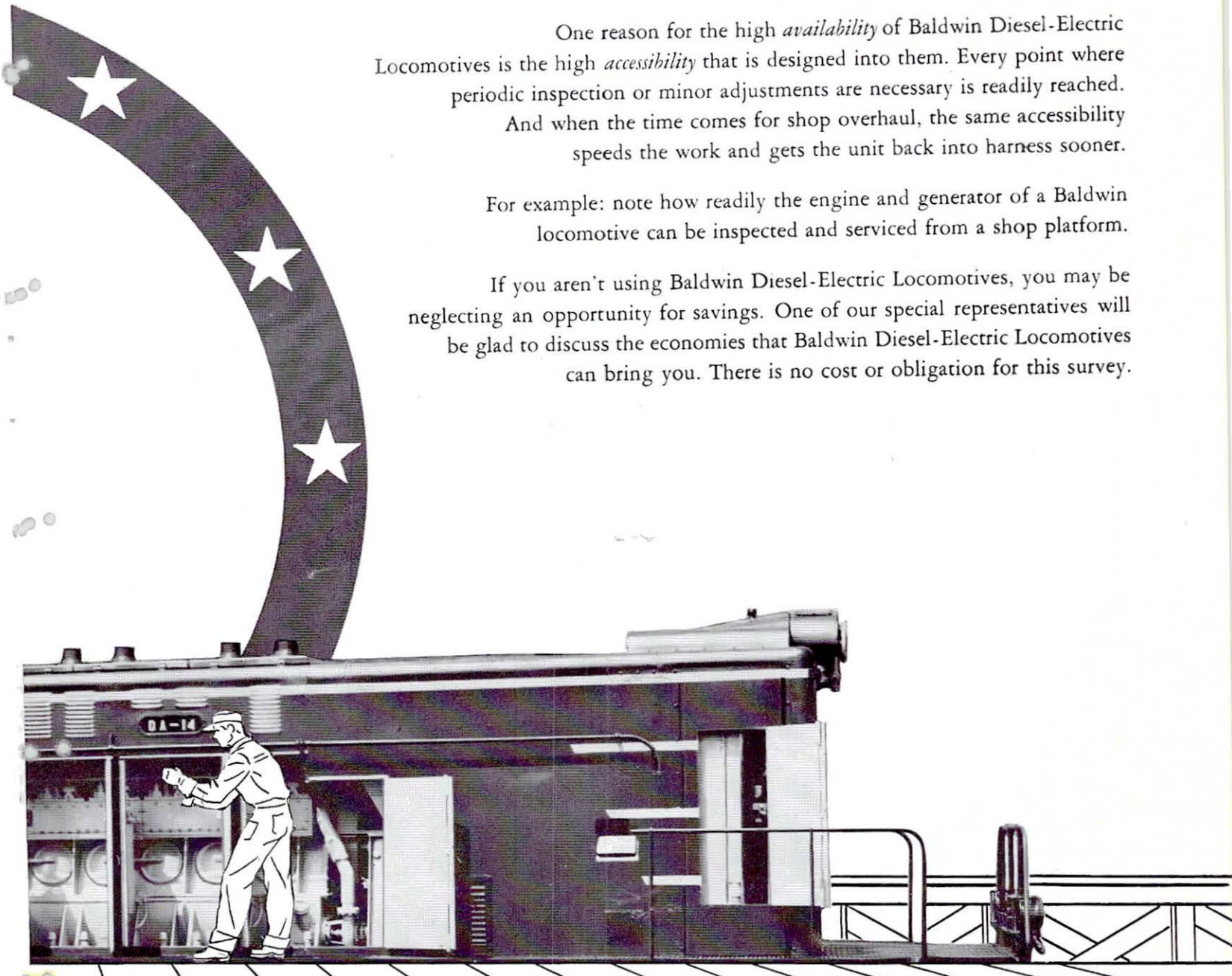
"ALL CLEAR"
for Maintenance means
quicker "ALL CLEAR"
for Service



One reason for the high *availability* of Baldwin Diesel-Electric Locomotives is the high *accessibility* that is designed into them. Every point where periodic inspection or minor adjustments are necessary is readily reached. And when the time comes for shop overhaul, the same accessibility speeds the work and gets the unit back into harness sooner.

For example: note how readily the engine and generator of a Baldwin locomotive can be inspected and serviced from a shop platform.

If you aren't using Baldwin Diesel-Electric Locomotives, you may be neglecting an opportunity for savings. One of our special representatives will be glad to discuss the economies that Baldwin Diesel-Electric Locomotives can bring you. There is no cost or obligation for this survey.

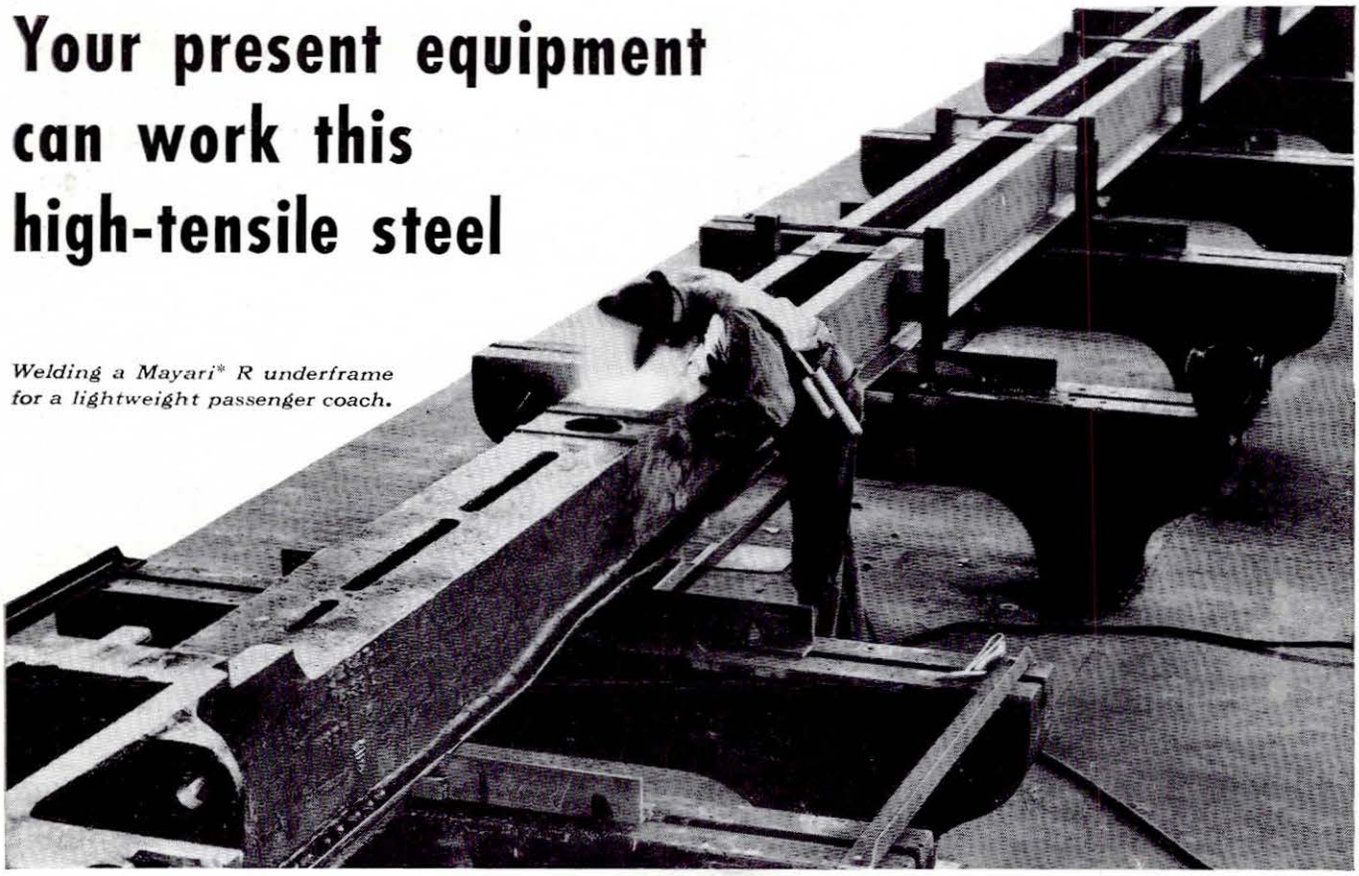


THE **BALDWIN-**
LOCOMOTIVE WORKS, PHILADELPHIA

BLW THE BALDWIN GROUP

Westinghouse
ELECTRIC CORPORATION, EAST PITTSBURGH, PA.

Your present equipment can work this high-tensile steel



Welding a Mayari R underframe for a lightweight passenger coach.*

In selecting a high-tensile steel for use in railway equipment you want one that can be worked readily, using your present plant equipment—one that responds to your usual shop methods.

Mayari* R, Bethlehem's low-alloy, high-strength steel, can be cold-formed, hot-formed, machined, flame-cut, shear-cut and punched on the same equipment you use for working plain carbon steel. Working methods are similar, with minor variations to allow for Mayari R's higher mechanical properties.

In welding Mayari R, any of the standard electric-resistance, electric-arc, automatic-submerged-melt and gas methods may be used. It is a non-air hardening steel and is not appreciably affected by welding temperatures. The only kind of welding not recommended for this steel is the hammer-forge method.

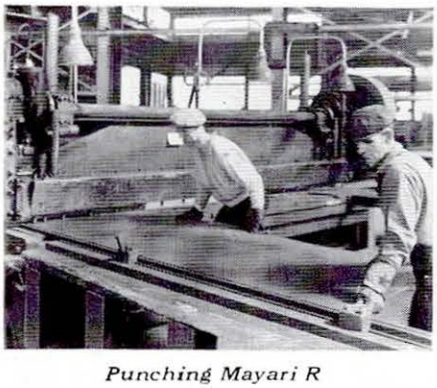
Consider Mayari R's weight-saving possibilities, its higher strength and its corrosion-resistance applied to your passenger, baggage, freight, or refrigerator cars. It is available in sheets, strip, plates, bars, structural shapes and cold-formed sections. New catalog showing a wide range of Mayari R applications, including many of interest to railroad men, will be mailed on request.

**Mayari is pronounced to rhyme with "fiery."*

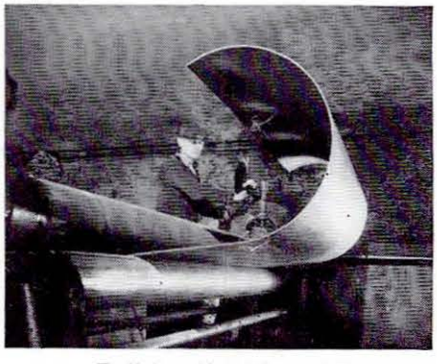
BETHLEHEM STEEL COMPANY
BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation

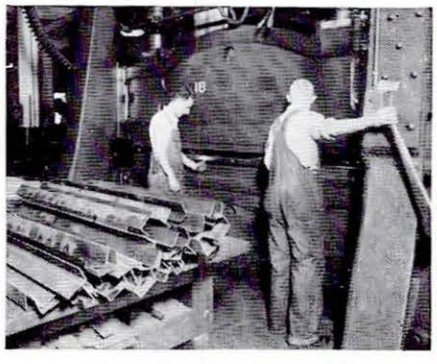
BETHLEHEM STEEL



Punching Mayari R



Roll-bending Mayari R



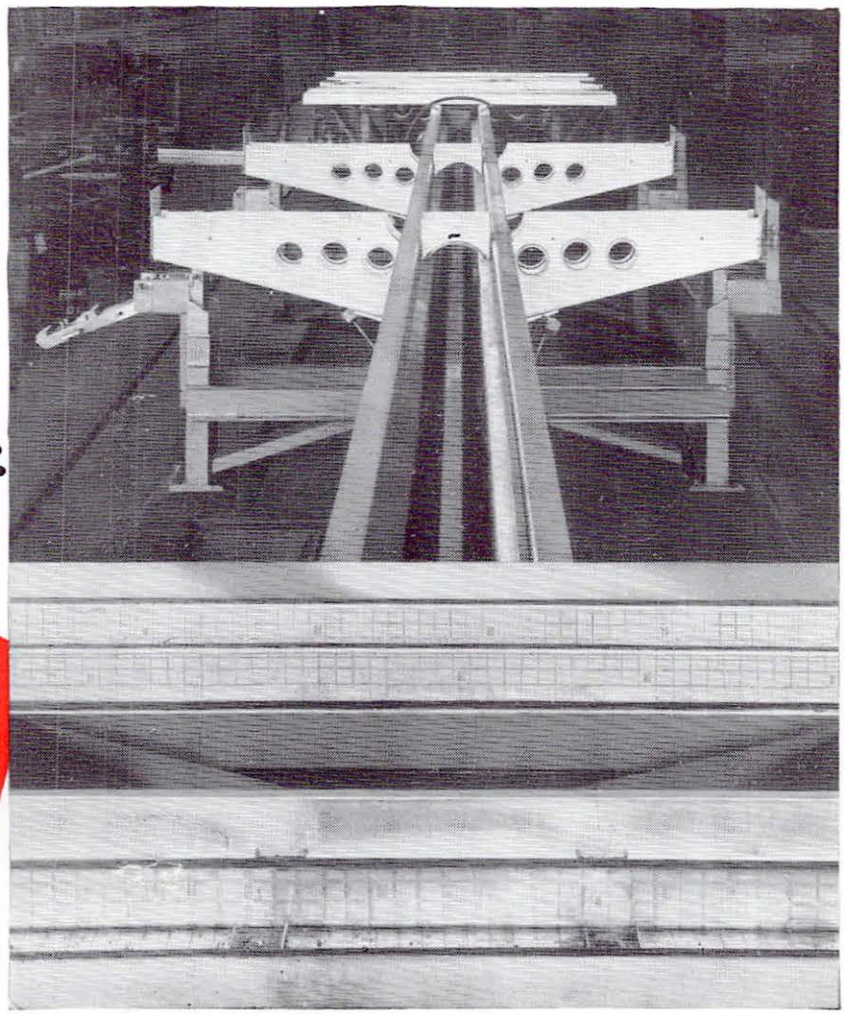
Press-forming Mayari R

Mayari R *makes it lighter... stronger... longer lasting*

Enduro Pays

in many ways

- Improved Employee Relations
- Easy to Clean
- Sanitary Surfaces
- Non-Contaminating
- Strong—Long Lasting
- Resistant to Rust and Corrosion
- Easy to Fabricate
- Universal Acceptance
- Low Ultimate Cost



This center sill and floor members represent but one of many applications for long-lasting ENDURO Stainless Steel in up-to-date car construction. Others include sheathing, window frames, decorative trim, chairs, tables, lavatory equipment, and dining car kitchen and pantry equipment.

● High strength and long life are two highly important qualities of Republic ENDURO Stainless Steel which pay profitable long-term dividends in modern railway car construction.

Ranking among the strongest and toughest of all structural materials, ENDURO center sills, such as the one shown above, far exceed A.A.R. requirements which specify resistance to compression of 800,000 pounds.

Moreover, ENDURO sections require no extra thickness—no excess weight—to offset later weakening due to rust or corrosion. In resistance to both, stainless steel is unequalled by any other structural material.

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GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, N. Y.

Republic

ENDURO STAINLESS STEEL

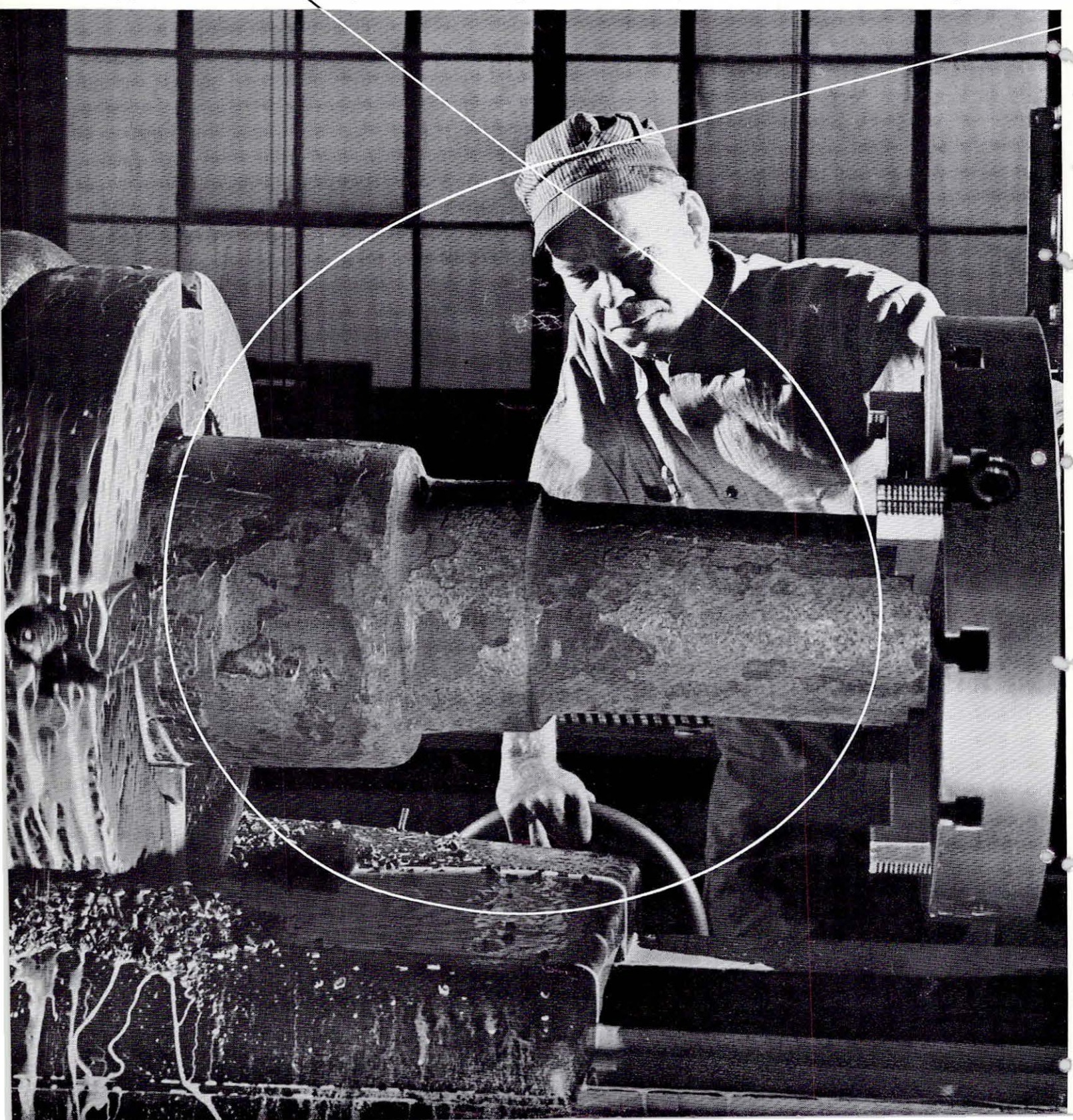
Reg. U. S. Pat. Off.

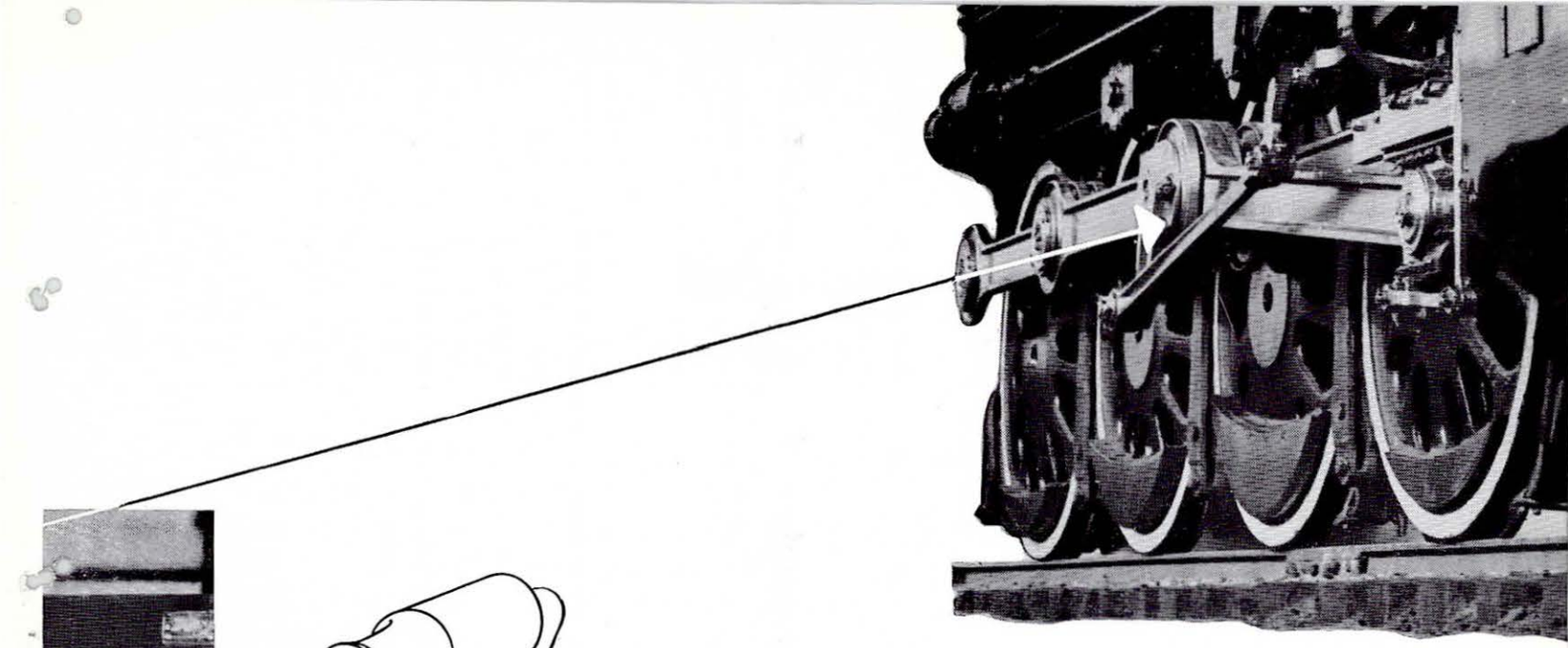
Other Republic Products include Alloy, High Strength and Carbon Steels — Pipe, Sheets, Plates, Bars, Bolts and Nuts, Boiler Tubes

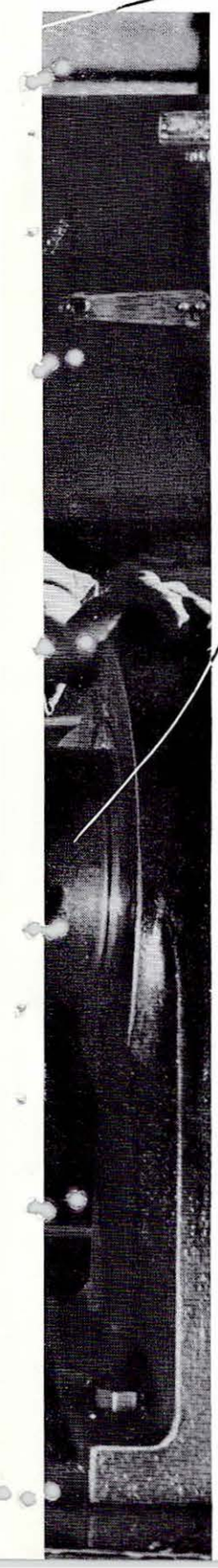
Facts About Steam Locomotive Parts

Crank Pin

What happens here . . . may make a huge difference in service and safety here!







Sixth Advertisement of an Important Series

IF a locomotive crank pin fails . . . well, *you* finish the thought. Crank pins simply must not fail.

The machine here shown is boring a crank pin forging in an ALCO shop.

Hollow-boring is a "ticklish" job. When a man machines the outside, he can see what goes on. When he machines the inside, he becomes even more dependent on his machine.

That is an example of the reason why ALCO spares no effort to obtain the best possible machine for each operation on a given ALCO locomotive part.

ALCO can afford to do that. Building locomotives and locomotive parts is ALCO's job. Therefore, men and machines specialize exclusively on that work.

Locomotive parts can be made in shops where such is not the case. But it is impractical to expect such parts for your ALCO locomotives to be made as well as ALCO can make them.

Genuine ALCO locomotive parts give you safety and service—the greatest possible value per dollar! American Locomotive Company, 30 Church Street, New York 8, N. Y.

American Locomotive

Alco

THE MARK OF MODERN ENGINEERING

TAME BUCKING BOXCARS

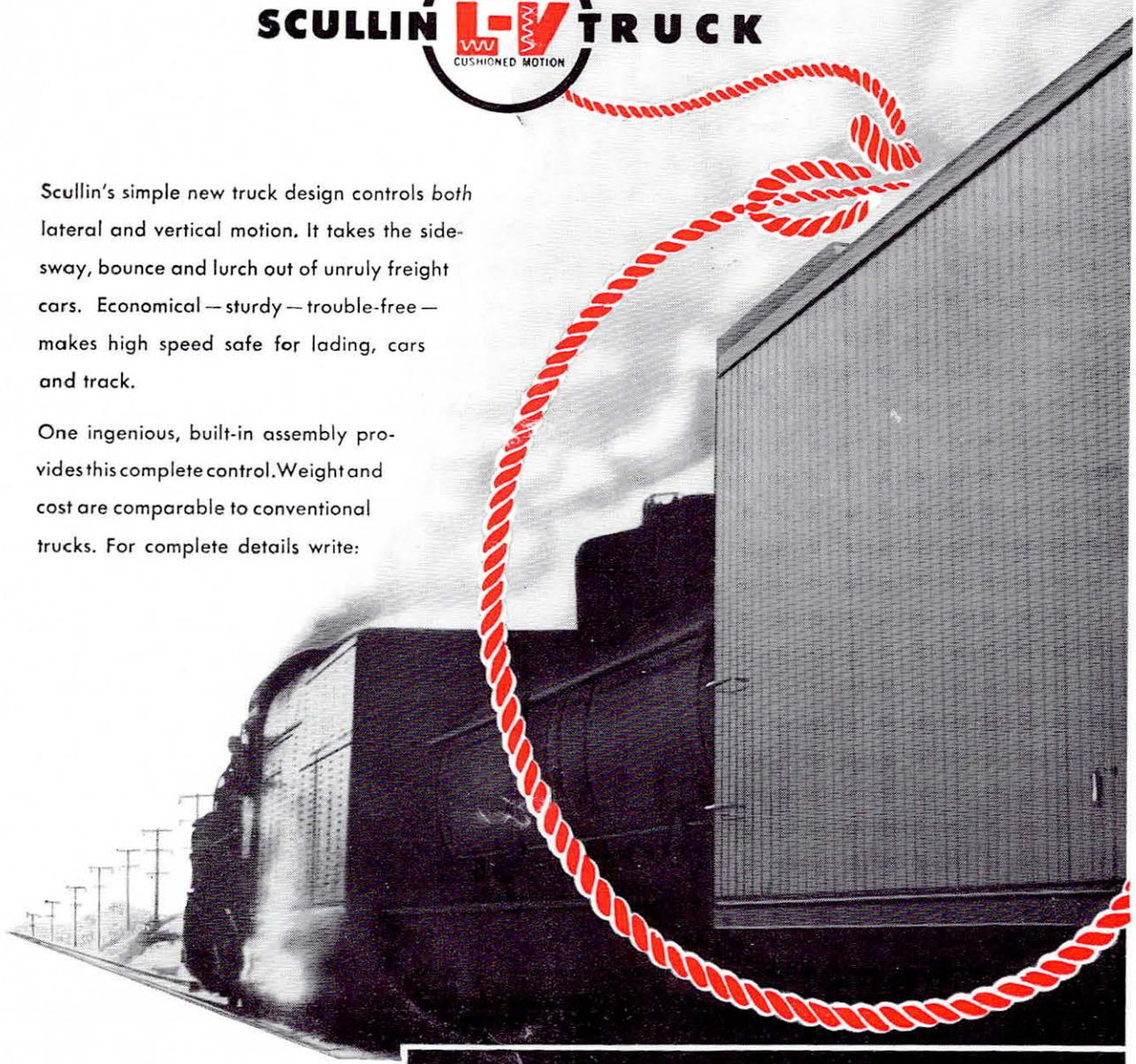
With the New

SCULLIN L-V TRUCK

LATERAL VERTICAL
CUSHIONED MOTION

Scullin's simple new truck design controls *both* lateral and vertical motion. It takes the side-sway, bounce and lurch out of unruly freight cars. Economical — sturdy — trouble-free — makes high speed safe for lading, cars and track.

One ingenious, built-in assembly provides this complete control. Weight and cost are comparable to conventional trucks. For complete details write:



ARMY NAVY

SCULLIN STEEL CO

SAINT LOUIS 10, MISSOURI

STEEL CASTING MANUFACTURERS SINCE 1899

NEW YORK • CHICAGO • PHILADELPHIA • CLEVELAND • ST. PAUL • BALTIMORE • RICHMOND, VA.

ACROSS-TRACK CONTROL

These Better Freight Car Trucks Protect Lading From All Kinds of Track Shocks

When ordinary freight car trucks hit a curve, what happens? This:

Axles take up their lateral play . . . bolsters bang over against their "stops." And if the shock is severe, the car body gets the kind of a jolt that means *trouble* sooner or later for roadbed, car, or contents. Even on straight track, control of *lateral* motion is just as important as up-and-down spring control.

You get *both* kinds of control in A. S. F. Ride-Control Trucks. Free lateral movement of axles permits wheels to "hunt," but sidewise bolster movement is cushioned by continuous friction—the *same* constant friction between bolster and side frames that controls up-and-down spring movement.

In the A.S.F. Ride-Control Truck, back-and-forth bolster motion is *resisted* and *controlled* without a single addition to the truck assembly. Control mechanism, contained entirely within the bolster itself, *absorbs* both lateral and up-and-down forces.

The Ride-Control Truck is the modern truck for all loads, all speeds . . . all *needs*.

A·S·F *Ride-Control* TRUCK

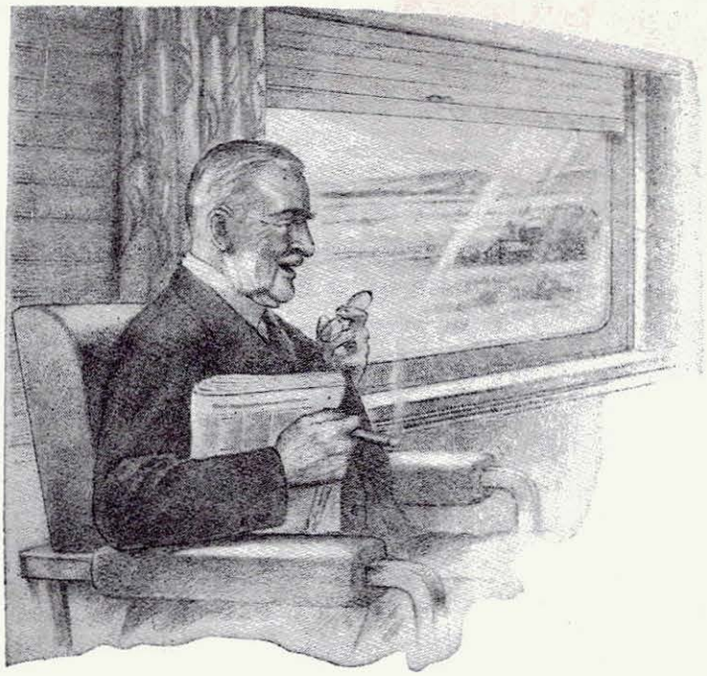
NO SPRING PLATES—NO SPRING PLANKS

LONG SPRING TRAVEL • CONSTANT FRICTION CONTROL

Over 27,000 sets of this modern freight car truck are already in service or on order for 53 railroads and private car owners.

AMERICAN STEEL FOUNDRIES

MINT-MARK OF ⬡ FINE CAST STEEL



Only Railroads Can Handle the Job,

says

R. R. Rider

(Number eleven of a series)

I've just re-read an old favorite of mine, "Life on the Mississippi." Mark Twain's great masterpiece has timeless appeal, except for spots such as a chapter on the advantage of water over rail transportation. While his arguments no longer hold, they reminded me of a senator's remark concerning railroads—something to the effect that if railroads couldn't compete against other transportation they'd have to give way, as the river packets did.

The senator was way off base there. Today's situation is not like that all all. Anyone should know why river boats lost out; the railroad just did a better all-round job. They were faster and gave cheap transportation to the whole country, not just the river towns. Now, ironically, the railroads are in danger of losing out to something that can't begin to replace them.

Take that long freight train we just passed. I'd say, conservatively, that it's hauling 3500 tons of freight and there are six men in the crew. If trucks were hauling all that stuff over 200 would be needed, and that means maybe 400 men, counting relief drivers if the runs are long. Railroads should have a big advantage there, but they're robbed of it in a lot of ways. One is that they build, maintain, and are taxed for their track while you and I supply highways for the trucks at practically no cost to them.

That highway alongside couldn't handle a quarter of the traffic carried by this railroad alone. With no railroads operating at all there'd have to be a lot more highways built. And who'd pay for them? The public, of course, but how they'd squawk over the cost! Only then would trucks be charged with their full share of the expense and freight costs would really jump.

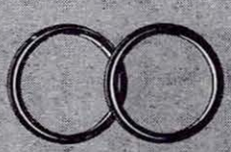
It's easy to believe that without railroads our transportation bill would go up billions of dollars, while living standards would drop proportionately. Think of that the next time a senator or anyone else says that anything but railroads can do a proper job of transportation.

Edgewater

Serving America's Railroads

RING SPRING DRAFT GEARS

ROLLED STEEL WHEELS



LOCOMOTIVE TIRES

EDGEWATER STEEL COMPANY · PITTSBURGH, PA.

Atlanta — Baltimore — Boston — Chicago — Cleveland — Kansas City — Louisville — New York
Philadelphia — St. Louis — St. Paul — San Francisco — Seattle — Washington, D. C.

Notes on STEEL CASTINGS

FOR STRESSED PARTS
rely on
HEAT-TREATED
"PITALOY"

Illustrated above are a Coupling Box and Spindle for a 40" Blooming Mill, heat treated to proper Brinell on all wearing surfaces. These parts were cast from "Pitaloy", an alloy steel developed by PSF which has ideal qualities for this type of application—the tough strength required to absorb heavy driving stresses, combined with the ability to assume high surface hardness under heat treatment. • Here's just another instance: first, of the tremendous utility of *modern* steel castings; second, of PSF's capacity to handle any kind or size of job, and any finishing requirements. *Put your steel casting needs up to PSF!*

48 YEARS OF STEEL CASTING KNOWLEDGE

Pittsburgh

STEEL FOUNDRY CORPORATION

Glassport, Pa. · Fort Pitt Steel Casting Div., McKeesport, Pa. · Pittsburgh Spring and Steel Co. Div., Pittsburgh, Pa.

Sales Offices: NEW YORK • PHILADELPHIA • CHICAGO • CLEVELAND • CINCINNATI • AKRON • WASHINGTON

What's Ahead — Atomic Age or Era of Transition?

Chances are the Atomic age won't rush in on us. There's a great deal of engineering to be done before its uses can be adapted to peace time pursuits. A decade or more is one scientist's estimate of the time required to develop an efficient atomic-powered locomotive.

In this transitional period more and more passengers will be hauled by conventional power—in cars with the "HSC" electro-pneumatic brake that performs with equal efficiency behind any type of power unit. Farsighted railroads today are specifying "HSC". Right now most of the great number of passenger cars on order will have it. Where travel expansion is anticipated the "HSC" electro-pneumatic brake will help to reduce schedules when the peak demand materializes.

For safety, speed, and passenger comfort specify the complete "HSC" schedule—

Electro-pneumatic—improves schedules with flexibility and smoothness

Speed Governor Control—for control of high braking forces

"AP" Decelostat—for anti-wheel sliding protection.

Westinghouse Air Brake Company

Wilmerding, Pa.

Railway Age

With which are incorporated the Railway Review, the Railway Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

Vol. 121 August 24, 1946 No. 8

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Modern Power on the Norfolk & Western **335**

Comparison of performance of 4-8-4 and articulated locomotives in both freight and passenger service—Terminal facilities an important factor in low costs.

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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service.

★

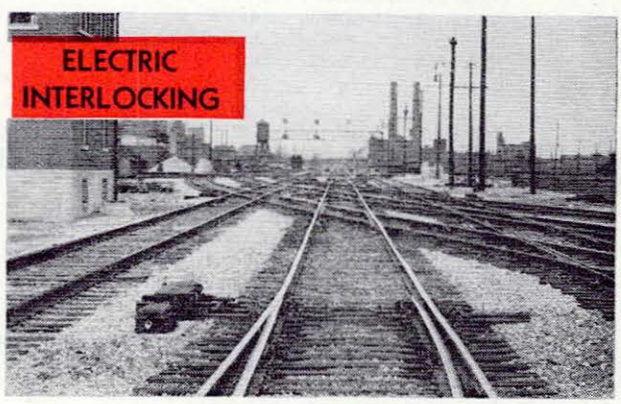
PRINTED IN U. S. A.

New track? terminal facilities?

now is the time to consider INTERLOCKING!

IS your railroad preparing for new terminal and track facilities? Track layouts, the nature and volume of traffic to be handled, the speed with which routes must be established or changed, and ample capacity for future additions must all be considered. Right there, is where "Union" representatives can help. "Union's" sixty-four years experience in designing, developing, and installing interlockings, backs their judgment. As designers and builders of both electro-pneumatic and electric interlockings, they will recommend the one best suited to your specific operating conditions—can furnish the one your railroad prefers. Three different types of control machines, which can be used efficiently with either electro-pneumatic or electric interlocking, are yours to choose from.

Let our engineers help yours determine the right interlocking, and the ideal control, to make those new track and terminal facilities everything your railroad expects of them. A request for collaboration, addressed to your nearest "Union" district sales office, imposes no obligation upon your railroad.



UNION SWITCH & SIGNAL COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

The Week at a Glance

MORE DELAY: The news columns include a report of the decision of the Interstate Commerce Commission to allow the opposition a little more time to make its case, such as it is, against a substantial increase in railroad freight rates. While the commission's appreciation of the railroads' urgent need for action to bring more cash flowing into the till to meet bigger bills has not been evidenced in any extraordinary haste in disposing of Ex Parte 162, now further delayed, at least it can be said that it has not accepted point blank the state commissions' argument that the time to give a patient a stimulant is after he has died for want of it. What the railroads had to say in reply to this polemic for procrastination is summarized herein.

●

FIFTY TRAINS—ONE TRACK: Because a short section of single-track main line was developing into something of a bottleneck when as many as 50 trains had to be handled daily, the C. & O. has equipped it with centralized traffic control, thereby obtaining savings in train time. The segment involved already had automatic signals and a train stop system, so a minimum of new work was required. An illustrated article this week gives an outline of the operating conditions encountered, and describes the control machine and arrangement of signals.

●

UNDER THE RED FLAG: In the news of the week is a story that the Communists are planning to chisel into railroad labor's ranks. At least they aren't disguising their objectives, which is more than can be said for some of the professional planners and self-appointed guardians of the public weal, much of whose time—paid for by the taxpayers—appears to be spent in devising ways to insure the failure of private enterprise.

●

INDICES UP: Railroad construction costs were greater last year than in any of the past 31 years, at least, according to the latest construction indices compiled by the I. C. C. valuation engineers. The overall index for the country as a whole was 209, up eight points from 1944. In other words, 1945 costs were 209 per cent of costs for the 1910-1914 period. The index for road construction was 197, for equipment 255, and for "overhead" 198. Details appear on page 339.

●

BUYERS' MARKET: Now that the public again can pick and choose between various forms of passenger transportation, there is evidence that it is showing less inclination to overlook small irritations, discourtesy, poor housekeeping and general laxity in service on the part of common carriers. The magazine Fortune currently reports that there are a few specks on the airlines' escutcheon, and the most recent public opinion survey conducted for the railroads by the Opinion Research Corporation, the results of which are reviewed in this issue, indicates that the public is definitely dissatisfied with the treatment it has been receiving since the war from some railroad employees. An editorial this week suggests that personal observation by responsible executives is one effective way to determine how well founded such complaints are, and how conditions that lead to unfavorable impressions of railroad passenger service can be corrected.

●

STILL IN THE DARK: Another facet of the sixth annual opinion survey appears to reflect a need for more, or different, public relations work by the railroads, work that will drive home to voters and taxpayers the fact that the government is subsidizing competing forms of transportation, giving those forms an unfair advantage over the railroads—the public recognizes the country's dependence on its railroads, the survey shows—and work that will put the public straight on the profit actually earned by the railroads as compared to what the public thinks they earn, or are entitled to earn.

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HEADING FOR DISASTER: One thing the recent war proved is the country's utter dependence on its railroads for the transportation on which military success depends. Because of the generosity with which the taxpayers' money was poured into the inflation of competing forms of transportation, and of the niggardliness exhibited by the government in dealing with the railroads, the country very nearly found itself, in this war, without enough usable transportation capacity to support its military and industrial efforts. It would be reasonable to expect that such a close shave would have given responsible quarters something to think about, and that a result of such cogitation would be government policies designed to permit the railroads to finance rehabilitation and expansion programs that would fit them not only to meet fully the demands of an enlarged peace-time economy, but also to carry the transportation burden of another emergency, if one should develop. But there is no evidence of the sort that rings the cash register that there has been such a change of government policy toward the railroads. If anything, the evidence is to the contrary. And, as the leading editorial points out, the railroads' needs for additional facilities are tremendous—and urgent. Substantial revenues are needed to finance these additions and improvements, but recent government policy toward the railroads has not been designed to sustain revenues—on the contrary, the railroads have wound up an exceptionally busy half-year actually poorer than they began it, and no one seems particularly concerned about it except the railroads.

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NOTED IN THE NEWS: The Southern and its connections have ordered passenger cars costing around $14 million to modernize four important trains. . . . The Canadian government has about-faced, and now favors railroad-operated air lines. . . . Car ferries on Lake Michigan have been held up by the seamen's strike, despite agreements signed by the union. . . . Shippers' detention of cars beyond free time was less in July than in June.

SHARING THE SHORTAGE: Admittedly the shortage of freight cars, particularly of box cars, is a matter of serious concern, not only for the present but for the future. But Colonel Johnson doesn't see any good reason why the cars that are available shouldn't be distributed to all sections of the country, and to shippers of different categories, on the basis of need—which means that the cars would be shared equitably, and the shortages would be shared equitably, too. That is his answer to pleas from the grain states for more cars now, as reported in the news pages. To satisfy the demands for cars to handle a peak harvest would, he says, cripple industries that must keep functioning if the national economy isn't to be disrupted, a development that, in the long run, would work hardship on the farmers and the grain trade as well as the rest of the country.

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MAXIMUM UTILIZATION: An article in this issue by the Norfolk & Western's C. E. Pond makes the point that better utilization of new and expensive road locomotives is a result not only of taking every advantage of the conditions under which they operate on the road but also of redesigning engine terminals so that necessary servicing can be completed with a minimum of fuss and feathers. Through painstaking attention to the arrangement of servicing facilities it is possible to complete routine terminal handling without allowing the engines to enter the roundhouse, and so to make them quickly available for dispatching. The article includes data on the three general types of locomotives recently built by this road, together with results of road tests made under carefully controlled conditions.

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PROGRESSIVE REPAIRS: The classified repairs system for steam locomotives instituted in World War I days isn't necessarily sacred and immutable, an editorial comments, and there appear to be some sound reasons why that system isn't as well suited to Diesel-electrics as the so-called progressive basis now used by many of the railroads operating Diesel power. Where every day is a shopping date maintenance is so controlled that inspections are made, and replacements effected, when desirable, making remarkable service records a common occurrence.

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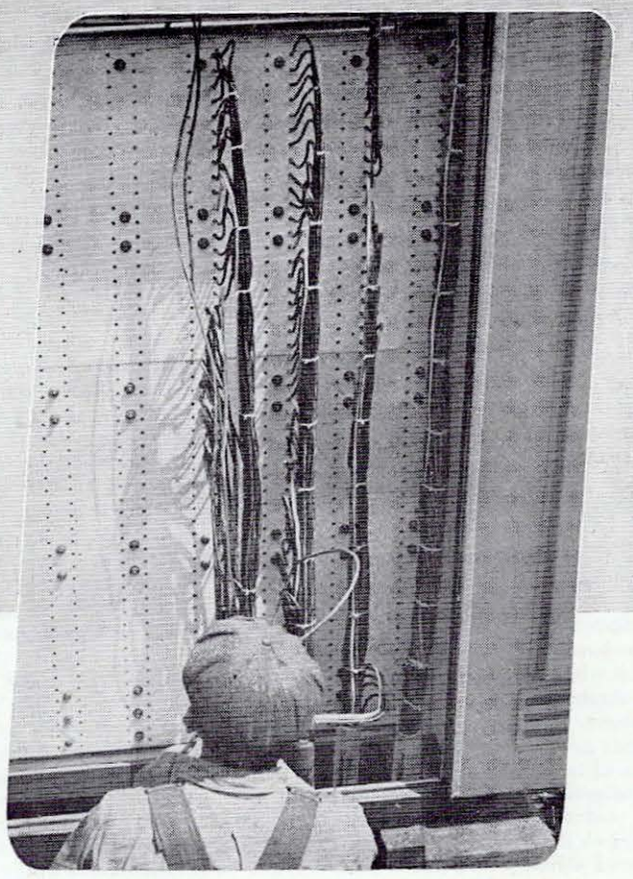
WATER FOR DIESELS: While Diesel-electric locomotives require much less water than conventional steam-powered types, the quality of the water is of even more importance, Guy E. Martin of the Illinois Central emphasizes in an illustrated article. In fact, it is desirable to have the water provided for Diesels equal to distilled water, treated with a chemical inhibitor to reduce corrosion. And it is essential, if the Diesel's advantages are to be realized as fully as possible, not only to have satisfactory water supplies available, but to have the facilities for servicing engines and trains arranged to carry on this necessary operation as rapidly as possible.

IN THIS CASE

wires are Okonite-insulated and Okoprene-protected



Instrument case in typical railroad signal installation. Signal wires shown here (as well as multi-conductor cables used by the same railroad) are insulated by Okonite and protected by Okoprene. Okoprene coverings, bonded to the insulation, protect the rubber up to the terminal.

IN EVERY CASE

Okoprene-protected cables are built for long life

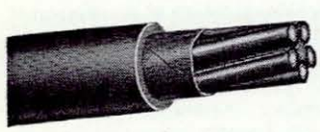
When Okoprene was developed in the Okonite research laboratories, one idea was uppermost. It was this: to design a neoprene compound which would give longer life to wires and cables — when bonded to the rubber insulation of individual wires . . . when applied as a sheath or jacket . . . when used in both these ways in the same multi-conductor assembly.

Experiments first, then service proved that this goal was won. Since the initial proving ground tests with Okoprene back in 1931, field experience with millions of feet of wire have established the stability and long life of Okoprene coverings under conditions which have differed widely. Railroad men in particular have profited by Okoprene's resistance to just those conditions of moisture, oil, chemical, heat, sunlight, flame and weather exposure that previously destroyed so many rubber insulated wires with fibrous coverings.

In an Okonite-Okoprene cable you get not only the top value in a durable Okoprene covering but also the time-tested electrical protection of long-lived Okonite insulation. Proved in service over nearly 70 years, Okonite insulation is highly regarded by railroad men because of its stability, toughness and high insulation resistance. Let us send you the data on Okonite-Okoprene cables. The Okonite Company, Passaic, N. J.

Single conductor Okonite-Okoprene signal wire

Multi-conductor Okonite-Okoprene signal cable with Okoprene sheath



Multi-conductor Okonite-Okoprene Parkway cable

OKONITE SINCE 1878 **insulated wires and cables** 4707

RAILWAY AGE

Large Additions Needed in Railway Facilities

The American people are confronted today with the most serious *real* shortage of transportation in their history—a shortage which, if not remedied as rapidly as practicable, will restrict all construction and production for years. It can be remedied only by a huge investment in expansion of the railroads; and meantime the Interstate Commerce Commission is delaying month after month the advancement in freight rates without which the railways cannot make the net earnings essential to enabling them to make the required investment. The people have had so much political discussion dinned into their ears about the "need" for increases in publicly-owned transportation plant—super-highways, airports, waterways — that they appear to be quite unconscious of the incomparably more acute need for additional railway facilities.

Where the War Burden Fell

The urgencies of the war provided a test of the nation's relative dependence upon the several alternative methods of transport. In the case of the railroads, freight traffic rose from 373 billion revenue ton-miles in 1940 to 737 billion in 1944—an increase of 97 per cent—and passenger traffic mounted from 24 billion passenger-miles to 96 billion, or four-fold. As for *highway transportation,* the 1940-44 increase in freight ton-mileage was insignificant, and passenger-mileage by highway greatly declined. In the case of *waterway transportation,* except on the Great Lakes, the unwillingness of the military authorities to entrust their shipments to the slow and undependable inland waterways was notorious, especially in view of the fact that these waterways are a War Department "baby", which is favored in and out of season in peace-time by the army engineers.

There would doubtless have been a large increase in war-time civilian travel by *air* if the facilities had been available—but the limitation lay, not in the fixed plant provided by the taxpayers, but in the scarcity of planes. More highway transportation would also doubtless have been used if the vehicles and fuel had been available—but they were not available and cannot ever be expected to be under the demands of present-day mechanized warfare. The result was that the actual test of war showed that an oversupply existed in the kind of facilities—highways, waterways, and civilian airports—provided so lavishly out of tax funds in the 'Thirties, while the enormous increase in traffic which occurred was thrown almost entirely on the railroads which, throughout the 'Thirties, had been prevented by unfavorable governmental policies from spending anything at all, *net,* on adding to their plant.

Twice now, within the limits of a single generation, this nation has been in grave military peril, and its practically complete dependence upon railroad transportation under such circumstances has been fully demonstrated. It has also been demonstrated, though the fact has received little recognition, that the kind of paralysis to additions and improvements to railroad plant which prevailed throughout the 'Thirties is a military as well as an economic threat to the nation's welfare—quite likely even imperiling its continued existence. No one of mature intelligence would contend that victory in the recent war would have come as soon as it did—perhaps it mightn't have come at all—if the railroads had been able to increase their ton-mileage only 25 or 50 per cent, instead of the 97 per cent increase actually achieved.

Well—it wasn't the paralysis of investment in the railroads' additions and improvements which prevailed during the 'Thirties which gave them the capacity in 1940 to increase their performance 97 per cent. This increase in capacity came from two sources: (1) a new and marvelously effective managerial technique, in which the military authorities and shippers collaborated, for assuring the maximum use of railroad rolling stock in time of crisis; and (2) the *net* increase of $7 billion in the railroads' investment which occurred between World War I and the depression, and which proportionately, greatly exceeded the growth of traffic in that period. These two highly important factors served to offset the prostrate condition of railroad earnings and new investment during the 'Thirties, and saved the country from the fatal consequences of its unconcern for the railroads' financial ill-health during that disastrous decade.

Needs Far Ahead of Resources

Now, with the war a year behind us, railroad freight traffic is still running (in June) 33 per cent ahead of the peace-time peak year 1929; and everybody knows that, except for strikes and other such arbitrary impediments to production as the O. P. A., the demand for transportation would be even greater than it is. The railroads, that is, are handling freight traffic one-third greater than that of the greatest previous peace-time peak in history, and passenger traffic about double that of 1929—with an

investment in facilities which is less than 8 per cent more than it was then. Is it any wonder that there are car shortages from which no early relief can be foreseen and that crowded conditions on passenger trains still persist?

The railroads handled a larger volume of traffic than this during the war, it is true, but war traffic is subject to a degree of control impossible with private traffic. For peace-time conditions, it should be abundantly plain to all competent observers that the welfare of the American economy calls for a large expansion to existing railroad plant and equipment. It should be equally clear that such expansion—at least equivalent to that of the 'Twenties—is also needed for reasons of national defense, to put the country's basic transportation plant in shape to withstand another military emergency of proportions equaling or exceeding that recently experienced. Finally, with the railroads operating at a deficit for the first half of the present year and with their earnings for the entire year almost certain to fall short by at least half of anything approaching adequacy, no one can possiby conclude that the railroads are now in a position to finance from voluntary private sources more than a fraction of the additions and improvements which are urgently and imperatively needed in the public interest.

Weakening Supervision

Comment was made in our August 10 issue upon the difficult lot of the track supervisor, or roadmaster, in long hours daily, frequently including Sundays, and often under conditions that call him out night after night, and, in emergencies, for two or three days at a time, with little or no sleep. But such hardships are only half the story. The other half is that, responsibility for responsibility, and hour for hour, he is perhaps the poorest paid employee on the railroads.

This point is not raised to direct attention to a disparity in remuneration on the railroads as it affects one class of supervisory officers, or out of any special consideration for the supervisor or roadmaster. It is raised because, through its existence, the railways are occasioning discontent within a group of their most essential employees, many of whom seek, or have already secured, other employment. Moreover the rank of supervisor is proving to be no longer attractive to the most capable foremen, and the compensation is a positive deterrent to technically trained young men who might otherwise be drawn from the engineering departments.

To determine how serious the situation is, managements need only discuss it with their higher engineering and maintenance officers. In some cases they will be told that, through dissatisfaction within and defections from the ranks of track supervisory officers, supervision along the line of road is at a low ebb in both quality and quantity—throwing still greater burdens on those who must assume the added responsibility. In many cases they will be told that their better foremen, especially, do not aspire to the heavy responsibilities, long hours, and often *less pay*, of the supervisor, who, besides, may be required to be away from his home many nights of the month, while the foreman, except for emergencies for which he receives extra pay, is generally assured normal living conditions after his regular working hours.

When neither the best track foremen nor technically-trained men brought up through the engineering department aspire to become supervisors, or roadmasters, and when many of those who already hold these positions are dissatisfied, the situation is one for concern on the part of management. This is especially true as higher train speeds demand refinement in every element of the track structure, and when the achievement of these results with the greatest efficiency and economy demands the highest grade of supervision attainable.

Railway managements, generally, hold track supervisory officers in the highest esteem. They have sung their praises on too many occasions to leave any doubt of this fact. But most of them have expected this group of men to thrive on this praise, without adequate supporting remuneration. Prudence indicates that these conditions be corrected.

Why Classify Diesel Repairs?

Included in the report of the Locomotive Construction Committee of the Mechanical Division, A. A. R., this year was a suggested outline for the manner of setting up a classification for repairs to Diesel-electric locomotives.

This was done because of requests from some of the railroads for such a classification although it seems evident from the wording of the sub-committee's report, and remarks that were made at the time of its presentation, that there might be some question, even in the minds of committee members, as to the necessity for such a classification.

In the study which the committee made of Diesel-electric locomotive repairs on the railroads that are now operating this type of power it developed that a considerable number, if not a majority, of the roads are making, and expect to continue to make, repairs on a "progressive" basis, using spare parts and spare assemblies to a considerable extent. Cylinder liners, trucks and traction motors, for example, the report explained, are inspected and replaced currently at the time of making the monthly, quarterly or annual tests required by the I. C. C.

Power plants, including the engine and generator, are removed as a unit and sent to the shop for overhauling, and a spare unit is dropped in place and the locomotive may go on its way without loss of time.

Classified repairs, as we have come to know the term over a period of years, seems to be definitely related to steam locomotive repairs by virtue of the fact that steam locomotives are overhauled on a mileage basis and the repair classification was originally set up with the mileage basis as its very foundation. Even in spite of the fact that in the years since the "classified repair system" was inaugurated during World War I the controlling factor in shopping a steam locomotive has changed from that of machinery and running gear to boiler repairs, the classified repair system has always been, and is now, a system directly related to mileage.

Thus far the Diesel-electric locomotive has made some of its performance records because one of its main advantages is that it is made up of major units, somewhat like the family automobile, that can be lifted out as a unit and replaced while the machine as a whole continues to operate without loss of time. Most roads are controlling their day-to-day Diesel maintenance on an inspection date-mileage basis that assures every part of the locomotive, both major and minor, being inspected and replaced as soon as it is evident that such a course is desirable. This method eliminates the necessity of "letting things go until a shopping date" because every day is a shopping date.

Any effort to set up a repair classification for Diesel locomotives looks like a move to complicate what seems to be a very simple problem by establishing a set of records for Diesel power that has no real application to the manner of operating that type of power. To continue the classified repair system for steam power and to forget its application to Diesel power, without trying to mix the two together, would seem to be the most intelligent thing to do in the long run. Experience with electric locomotives, in this respect, might serve as a worthwhile guide.

In the Passenger's Shoes

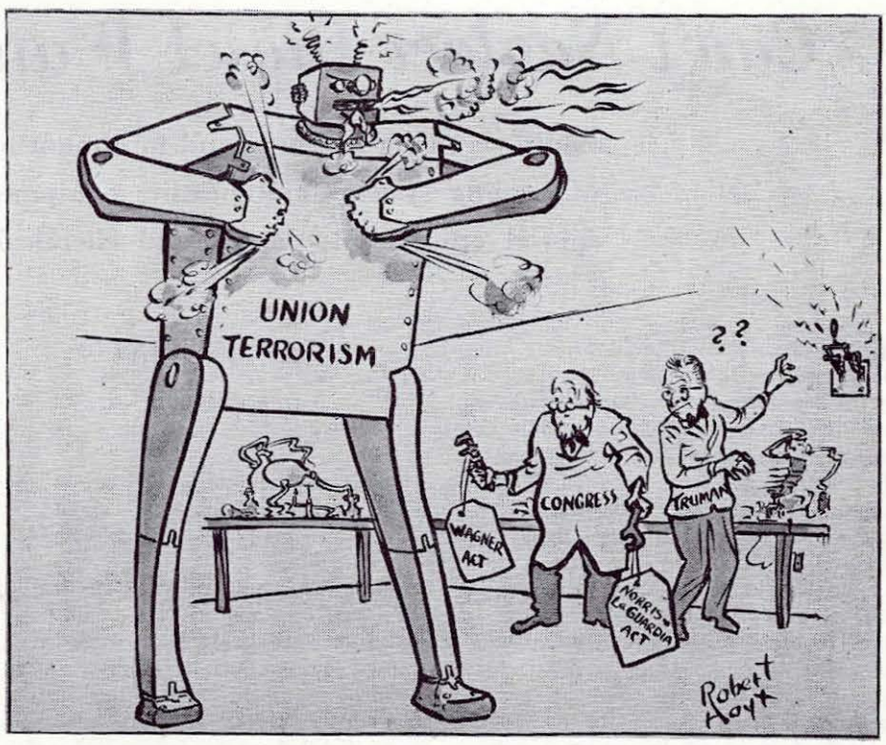
It is related that the English king, Richard the Lion-Hearted, was in distant lands attending to business he considered to be of the utmost importance when word came to him that affairs at home had gone awry and demanded attention. Richard decided to look into the matter for himself to see if the reports were true. But he did not order out his business car, or send his secretary ahead to make reservations and smooth the way. He put aside the habiliments of rank and went on as any humble man, taking things as they came. And he learned a great deal from his anonymity that was to his advantage and to the advantage of the public.

Railway officers responsible for policies and practices affecting passenger service are certainly better informed than King Richard was, and they probably are much busier, but they have the same reason that he had for wanting to know what the public is thinking about. They know how important it is to travel about on their own roads, and perhaps those of their connections and competitors, and to sample the offerings of competing forms of transportation. It may be difficult to find the time for this, but if they can make more opportunities to travel, not as railway officers but as private individuals, they may return to their regular labors satisfied that travelers are getting the best service the railroads can give them, or they may return with ideas for improving that service.

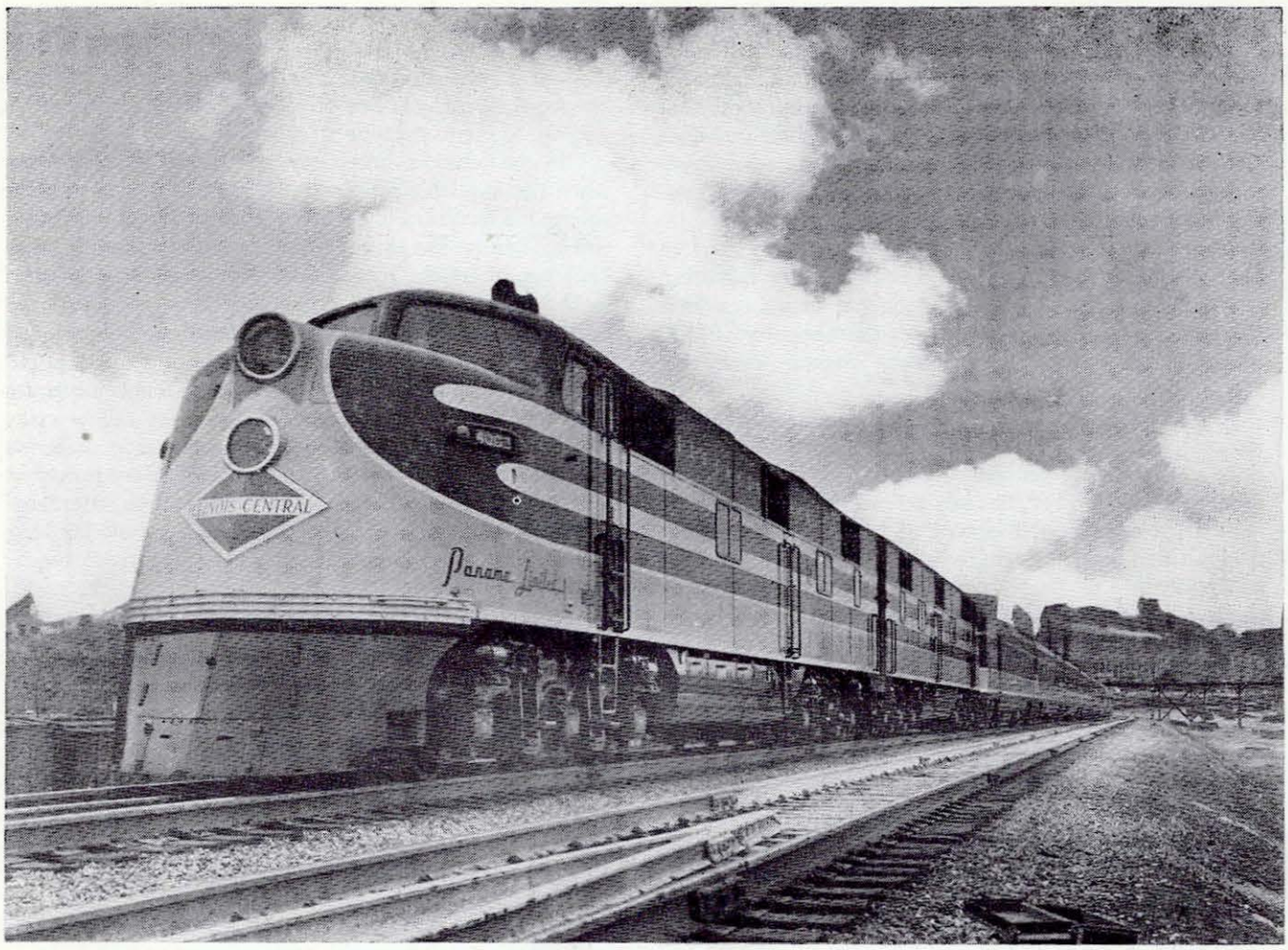
Obviously these investigations are more rewarding when the inquiring officer leaves his business car on the siding, his secretary in the office, and his pass in his other suit. Then he can assume the role of any cash customer (subject, of course, to occasional recognition by an alert employee) and, traveling more or less incognito, can find at first hand the answers to questions that may occur to him as he considers suggestions or scans reports.

The war has been over a year, and passenger revenues have dropped off. How does the ordinary fellow make out now buying coach tickets, or reserving Pullman space, at city and station ticket offices? How promptly is his baggage checked? Are the redcaps attentive? What is the attitude in the dining cars and how far have menus and service recovered from the war-time slump? Are the lights always strong enough to read the newspaper comfortably? Does the air conditioning work in summer and the heat in winter, and is the train cooled off after a day in the yards in the broiling sun, or is it placed in the terminal for passengers to board cars still at Turkish-bath temperatures?

Do agents at small town offices take their lunch hours to suit their own convenience, or the customers'? Are dining cars placed in trains so passengers' walks through swaying cars will be as short and easy as possible, or as dictated by switching convenience? Is head-end business handled with the least possible delay to passengers —passengers who are beginning to have, these days, a choice of ways to travel? Only through first-hand experience can the responsible officer be assured that everything is being done to produce the right answers to such questions.



Only Those Who Made Him Can Take Him Apart



One of the Illinois Central's Diesel passenger trains—the "Panama Limited"—with tanks full of scientifically treated water, ready for a run

Can't Neglect Diesel Water Facilities

Rapid servicing en route and minimum maintenance of cooling systems and heating equipment demand special attention to layout and chemical treatment

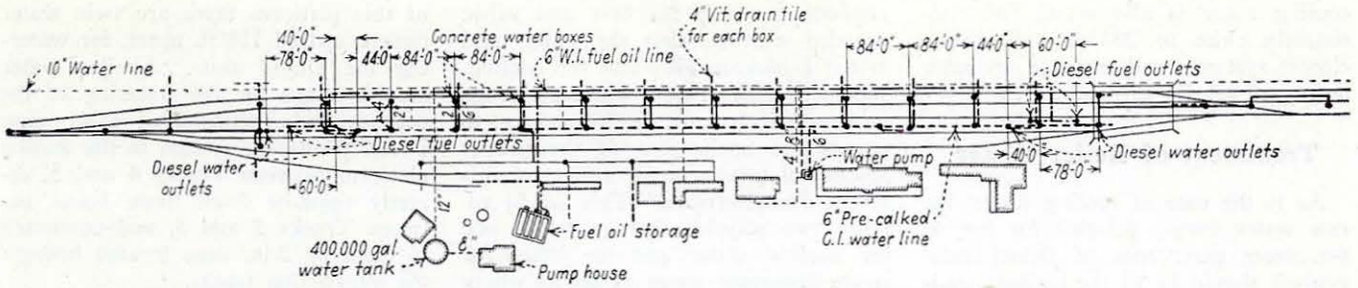
By GUY E. MARTIN
Superintendent Water Service, Illinois Central

SINCE the first use of Diesel locomotives on the railroads, it has been necessary to make certain changes in existing fixed facilities to permit the operation and servicing of these units. Important among these facilities are those involving water supplies. Although the Diesel consumes much less water than the steam locomotive, water is necessary for cooling the engine and for the steam generators used to heat coaches. Therefore, where Diesel power is operated, water of satisfactory quality and quantity, and at proper pressures, must be available at the points where it will be needed, together with the necessary facilities for delivering it to the storage space on the locomotives—facilities which should be ample to permit the service required without delay.

While the volume of water needed by Diesels is comparatively small, the quality necessary for best results generally requires that it be given more chemical treatment than water used in steam locomotives. A water comparable to distilled water, or distilled water treated with an inhibitor to prevent corrosion, is accepted as desirable, and possibly the most economical in the long run when repairs are taken into consideration. The use of water in Diesels without regard to its quality is certain to result in inconvenience and excessive maintenance costs of these units.

Cooling Water

The daily cooling water requirements of a Diesel locomotive range from 5 to 15 gal. with a tight system, depending on service demands, and, of course, are more with leakage. However, the water supply and delivery facilities



General plan of the Diesel and passenger-train car watering facilities at Fulton, Ky.

provided should be sufficient to take care of refilling the system after draining for inspection or repairs, which requires from 100 to 400 gal. per locomotive. A one-inch hydrant at a convenient location, with the usual city water pressure of 50 lb. is sufficient for this purpose. Three-quarter inch hose is sufficient, but lengths greater than 50 ft. should be avoided to eliminate friction loss and unnecessary expense for hose. Hydrants should be so located as to permit this limiting length. With very low water pressure, the size of the pipe and hose should be increased to permit the required speed of delivery to the units.

Heating Boiler Water

The time required for watering Diesel locomotives used in passenger train service is governed by the water consumed in their steam generators, or heating boilers, as it is seldom necessary to add water to the engine cooling system between terminals. The storage capacity for water for the heating systems on such units varies from 1,000 to 1,600 gal. From one to four heating units are used on trains, and the water consumed varies with the length of the train and the outside temperature. It is desirable to locate the water facilities at scheduled stops and, where required, at one or more intermediate points between such stops to take care of emergencies and the added requirements of extremely cold weather.

Two inch or 2½-in. hydrants with quick-opening valves, and hose of similar size equipped with couplings suitable for making quick connections, should be used with pipe lines and the pressure provided should be sufficient to deliver 300 to 400 gal. per min. to the storage tank. When pipe lines and pressures are not sufficient to secure the desired flow of water, it may be necessary to increase the size of the lines and to install an automatic or remotely-controlled booster pump to supply the water in the amount needed, without excessive delay.

Water for the coaches and dining cars of Diesel-powered trains is usually furnished through facilities supplied for general passenger car service. The chemical characteristics of this water are of no particular concern, but it should have the approval of the U. S. Public Health Service as to sanitary characteristics. Furthermore, careful consideration should be given to the location of the facilities for delivering this water to insure servicing cars in the minimum time. It is desirable to space the hydrants so there will be one for each car, and to use pipe, hydrants and hose of ample size for the available pressure and service requirements. The operation of these watering facilities is usually handled by car department men or other designated mechanical department employees, and it is necessary to take into consideration the availability of sufficient men for this purpose when locating the facilities.

While it was thought originally that it would be unnecessary to treat the cooling water to be used in Diesel locomotives, experience has developed that the treatment of such water will result in better performance by these units and the elimination of certain expensive repairs. Treatment is used in the cooling water to protect the cooling system against electrolysis and to prevent corrosion and the formation of scale deposits in the circulating system. A successful treatment of the water must afford this protection while passing through many temperature changes in its cycle from the storage tank, through the engine block, cylinder head, radiator and back to the tank. Furthermore, in this cycle, many different metals and metal alloys, and both crude and synthetic rubber gaskets, must be protected. If a suitable circulating water is used, considerable costly maintenance will be eliminated.

It is desirable to have a chemically pure water for use in Diesels; generally distilled water or water treated by one of the demineralization processes is considered best. Even though water of this type is used, however, further treatment is necessary. All waters should have some treatment, and the lower its initial mineral content, the better the results will be from the treatment given.

After the proper water supply is secured and the treatment dosage determined, the equipment maintenance forces should make a special effort to avoid unnecessary loss of water from Diesel cooling systems. Leakage due to improper maintenance not only results in a loss of water, but also keeps the chemical dosage out of balance, and the circulating systems may not be properly protected.

The general practice for treating the water used in cooling systems is to add a certain amount of chemical to the water after it is put in the system. From experience and the results secured by adding chemicals directly into water in the tenders of the steam locomotive, called the hand-application method, it appears that such a method is not the proper one insofar as Diesel cooling water is concerned. Perhaps the best arrangement for Diesel water is a wayside water storage tank with automatic treating equipment to add the correct amount of chemicals to the storage tank as it is filled, and then to use this uniformly treated water in all Diesels.

Re-Use of Water

Since the cost of properly treated water for use in cooling systems is considerable, it is advisable to prevent its loss in every way, particularly at shops and terminals where it is necessary at times to drain the cooling systems. At such points, it would appear economical to provide the facilities necessary for saving the water drained from systems, provided it is suitable for reuse. This can be done by the installation of suitable catch basins, where the water can be collected and pumped back to the cooling water storage tank. Such facilities are not expensive to install.

The proper maintenance of hot-engine alarms and careful operation by engine crews will prevent excessive temperatures in the cooling system. Most hot-engine alarms are set at 200 to 203 deg. F., but cooling waters should not often reach this temperature. This is especially important where waters with incrusting characteristics are used. Where the temperature of

cooling water is allowed to run consistently close to 200 deg. F., lime-closed systems and cracked cylinder heads are certain to result.

Treatment of Boiler Water

As in the case of cooling water, the raw water supply selected for use in the steam generators of Diesel locomotives should be of the highest quality. The proper supplementary treatment can then be chosen. Again, as in the case of engine cooling water, no water—even if chemically pure—should be used in the steam generators without some further treatment. If waters of moderate or high hardness must be used, a treatment should be selected that will result in a non-adhering sludge. On the other hand, if the raw water is soft or extremely pure, protection should be afforded against dissolved gases or an acid condition. In addition, correct treatment should be maintained by the periodic collection and analysis of water samples. Furthermore, periodic checks should be made of steam generating equipment to be sure that the desired results are being secured.

The water used in the steam generators of Diesels is treated to keep the generating coils free from scale and corrosion. While this purpose parallels that in the treating of circulating or cooling water, the treatments used are not interchangeable because of the different temperatures involved in the two systems and the relatively large amount of water used for heating, compared with cooling. Improper treatment in the case of the water used for heating results in the formation of scale or incrustation which clogs the generating coils, which in turn, results in overheating of the metal or corrosion and pitting, both of which destroy the metal. In either case expensive maintenance results. In addition, the use of improper waters in heating generators wastes fuel.

The general practice followed for the treatment of steam generating water on Diesel equipment making long runs is to put a chemical feeder on the Diesel unit to treat the water as used, and this has worked reasonably well on many of the units, The method first employed was the use of a bypass feeder. More recently, more accurate treatment and better results have been obtained by the use of an adjustable delivery chemical pump operated by direct drive on an eccentric extending from the end of the water pump crankshaft. An alternate method is a belt and pulley drive, with the pulley on the extended end of the water pump crankshaft. However, despite the successful results that have been secured by these methods to date, the best and safest practice indicates that the water used in the generator, like that for cooling, should be treated in a wayside storage tank rather than on the locomotive, to permit the application of the proper amount of treatment for waters of different characteristics. This would require two wayside storage tanks, one for cooling water and the other for steam generator water at points where both types of water are needed.

On the Illinois Central a double-unit 4,000-hp. Diesel-powered passenger train is operated between Chicago and New Orleans, La., a distance of 921 miles. Watering facilities to serve this train between terminals are provided at Champaign, Ill., Centralia, and Carbondale, Fulton, Ky., Memphis, Tenn., and Grenada, Miss., and Jackson. During the summer months it is seldom necessary to take water at points other than Fulton, which is 405 miles from Chicago—and the point for refueling on the trip. In extreme cold weather, all points are sometimes used, but generally water is required at only two additional points. Other Diesel trains on this road have about the same spacing for watering facilities.

The water used on Illinois Central Diesel equipment is comparatively good. The average of the waters used will about equal Lake Michigan water in hardness and total dissolved solids. Chromate treatment is used for cooling water and a combination phosphate-tannin treatment is used for steam generators. All cooling water treatment is added by hand application at terminals as required. The water for steam generators is treated, as used, by a chemical feeder on each Diesel unit, the amount of chemicals used being proportional to the average character of water consumed during the entire trip.

The Diesel watering facilities at Fulton, the largest intermediate Diesel water servicing point on the system, are integral with the Diesel train coach and Pullman watering facilities, and are so located that water can be put on the Diesel units and cars of Diesel-powered trains on either of two tracks while station stops are being made and the Diesel units are being refueled. Here, in a five-track station layout, extending in a general north and south direction, the Diesel watering facilities are more or less interrelated with those serving steam-operated trains, but are confined to a platform between Tracks 2 and 3, from which they can serve trains on either of these tracks, headed in either direction. For watering the cars of Diesel trains, water service boxes are located at intervals of 84 ft. continuously throughout the length of the platform between Tracks 2 and 3, and at both the north and south ends of this platform there are twin water outlets, spaced 118 ft. apart, for watering the Diesel units. Similar water service boxes for the watering of the coaches and Pullmans of other than Diesel trains are located in the station platform between Tracks 4 and 5, directly opposite from those boxes between Tracks 2 and 3, and connected to them by 2-in. lines located beneath the intervening tracks.

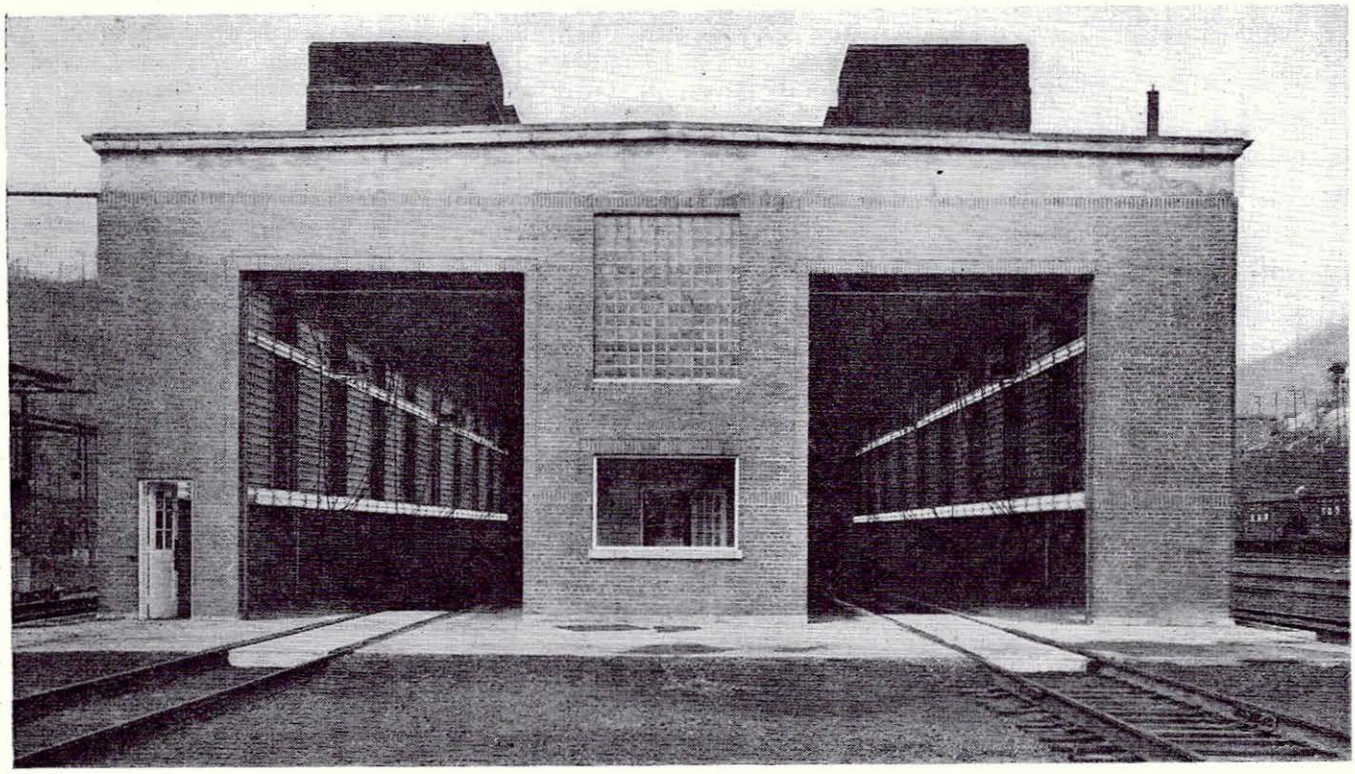
Booster Pump Used

The water supply at Fulton is secured from a company-owned well 460 ft. deep, and is pumped into a 100,000-gal. storage tank having a top height 40 ft. above rail. Pumping is done by a 30-hp. motor-turbine pump at a rate of 500 gal. per min. The supply is used for both steam and Diesel locomotives, as well as for Pullmans, coaches and sanitary purposes at the station and several nearby miscellaneous buildings. All of the water is chlorinated to secure a residual chlorine content of about 0.4 parts per million, and is approved by the State Department of Health.

The supply to steam locomotives is through a 10-in. cast iron pipe line located along the east side of the station track layout, which serves water columns at opposite ends of the station platforms. About midway between the north and south-end water column locations, an 8-in. supply line is taken off the 10-in. main water line and extends beneath the tracks to an electrically-driven centrifugal booster pump, located directly at the north end of the station building. From the booster pump a 6-in. cast iron supply line extends out to and then continuously beneath the platform between Tracks 2 and 3, serving all of the Diesel train water service boxes between these tracks, and the Diesel unit water connections at the extreme north and south ends.

The booster pump is manually controlled and is operated both when Diesel units are being watered and when coach-watering demands are heavy. The capacity of the booster pump is approximately 500 gal. per min. at 50-lb. pressure, which is sufficient to supply the water required for Diesels in from 3 to 4 min., or well within the time required by trains for necessary station work and other services.

The well water supply at Fulton requires only small amounts of treatment, it having a methyl orange alkalinity of 1.6 grains per gallon, a hardness of 1.1 g. p. g., pH 6.5, and a total soluble mineral solids of 2.6 g. p. g. consequently, very little trouble of any kind traceable to water is experienced on Diesel units using this water.



Williamson, W. Va., service building

Modern Power on the Norfolk & Western

Comparison of performance of 4-8-4 and articulated locomotives in both freight and passenger service—Terminal facilities important factor in low costs *

By C. E. POND

Assistant superintendent motive power, Norfolk & Western

SINCE 1936 the Norfolk & Western has designed and constructed 116 modern steam locomotives in its Roanoke, Va., shops. These locomotives are essentially of three types: (1) a streamlined 4-8-4 passenger locomotive, Class J; (2) a single-expansion 2-6-6-4 articulated freight and heavy passenger locomotive, Class A, and (3) a 2-8-8-2 compound Mallet heavy freight locomotive, Class Y5, Y6, Y6a.

In designing these locomotives, the objective was to develop a steam motive power unit that would have sufficient hauling capacity to handle trains over mountain grades; that would be capable of reasonably high speeds where operating conditions were favorable; that would be capable of making long runs with a minimum of attention and that would perform this work at a lower maintenance cost than has been acceptable for steam motive power of conventional design.

The Class J locomotive[1] has a boiler of the conical type with a firebox 146 in. long by 106¼ in. wide. The boiler was designed for a working pressure of 300 lb. but the pressure was set at 275 lb. when the locomotives were originally constructed. The tractive force on this basis was 73,300 lb. and the factor of adhesion 3.9. During a series of dynamometer-car tests last summer the boiler pressure was raised to 300 lb. giving a tractive force of 80,000 lb. and a reduction in the factor of adhesion to 3.6. The locomotive's performance was so much better at the higher pressure, and the tendency for the driving wheels to slip was not discernibly increased, that the boiler pressure on all eleven Class J locomotives was increased to 300 lb.

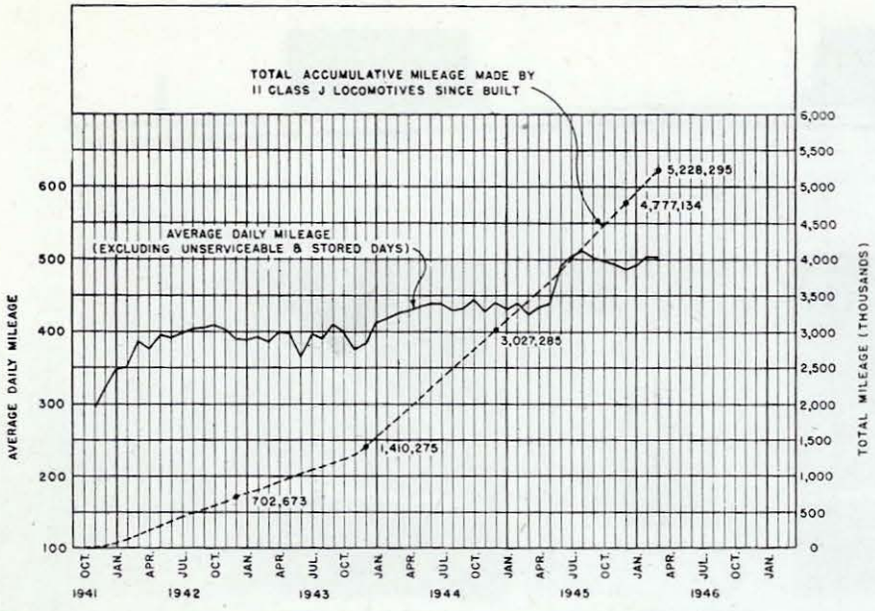
The maximum recorded speed of one of these locomotives is 110 m. p. h. handling at 15-car, 1,025-ton train on level tangent track. This locomotive had tires worn to 68½ in. outside diameter. The average piston speed under these conditions was 2,878 ft. per min. and the driving wheel speed 540 r. p. m.

The Class J locomotive is the first N. & W. locomotive to be fitted with roller bearings on the crosshead and crank pins.

Considerable attention was given to the method of lubrication. Every locomotive part in which friction is a factor was studied with the idea of using either anti-fraction bearings or improved methods of lubricating the friction bearings. These locomotives are equipped with

* Abstract of a paper presented at the Southern & Southwestern Railway Club, Atlanta, Ga., May 16, 1946.

[1] A complete description of the Class J, 4-8-4 type locomotive appeared in the *Railway Age* for June 2, 1945, page 971.



Mileage record of the N. & W. Class J 4-8-4 type passenger locomotives, showing both the average daily mileage and the total for the entire period of service

mechanical lubricators, having auxiliary oil reservoirs, so that the total engine oil capacity is 28 gallons, and the total valve oil capacity is 22 gallons, or, sufficient oil for a run of 1,300 mi. The mechanical lubricators supply 220 different points. In addition, 72 points are lubricated with fittings for pressure grease lubrication.

Utilization

In speaking of modern locomotives, the words "availability" and "utilization" have been greatly emphasized. Availability is generally considered the responsibility of the locomotive designer and builder. The definition of availability differs widely and is influenced by train schedules, demand for power, and the availability of crews.

We are interested, to a larger degree, in the actual utilization of the locomotive. Utilization is the responsibility of the mechanical and operating departments of a railroad. The Class J locomotives are actually utilized 60 per cent of the time, and average 15,000 miles per locomotive per month. On a longer, higher-speed railroad, where the locomotive can be assigned to extended passenger runs, mileages greatly in excess of 15,000 per month could be made.

Dynamometer Road Tests

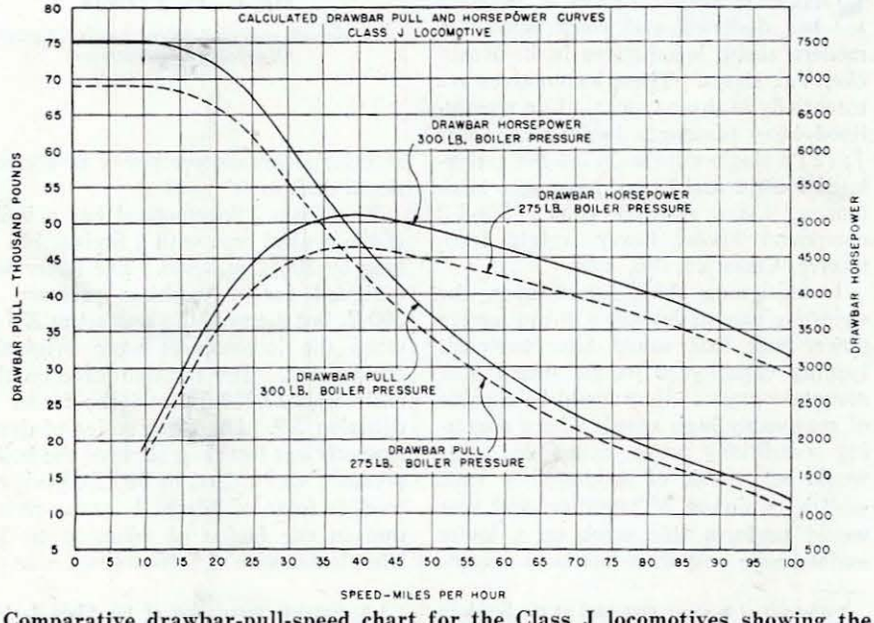
Last summer the Class J locomotive was subjected to extensive dynamometer tests on the Radford division to determine the maximum horsepower and general locomotive performance under given loads and speeds. The section of the Radford division selected for the tests was that between Roanoke and Christiansburg, Virginia, a distance of around 38 miles. The data relating to maximum performance was obtained in the 12 miles of this section between Elliston and Christiansburg, in which distance the railroad crosses one range of the Allegheny Mountains with an almost uniform ascending grade of 1.3 per cent.

In planning and preparing for the tests, provision was made for obtaining data as regards pressure, temperatures, coal used, water used, speed, drawbar pull, etc., with variables held to a minimum. A special train was used, and for a given tonnage it was made up of the same cars. The base train of 1,065.4 tons was made up of 15 passenger coaches and the dynamometer car. When heavier trains were desired, loaded coal cars were added. The locomotive was operated by the same engine crew for all test runs. Starts and stops were made at the same locations with no interference during the run. A level device was used to obtain approximately the same water in the boiler at start and stop. The coal was weighed as used. The weight of tank water used was obtained by measurements on a calibrated tender cistern and feed-water heater recovery developed on the basis of temperature and pressure of exhaust steam and temperature of feed water delivered to the boiler. All coal used was of the same nominal size, and from the same mine.

During these tests the locomotive was operated to develop maximum capacity using 275 lb. boiler pressure with each of the different tonnage trains handled. This was also true using 300 lb. boiler pressure, except with the 1,065.4 tons where a speed limit of 40 m. p. h. on curves prevented reaching maximum capacity. The advantage of 300 lb. pressure handling 1,065.4 tons was reflected in improved economy in coal and water.

The accuracy of the calculated drawbar pull and drawbar horsepower curves in the lower speed range was checked in the Elliston to Christiansburg district. A drawbar horsepower equal to approximately 5,100 at 40 m. p. h. was accurately established in these tests. Corrections were made for observations taken on grade.

Selected data from test runs developing maximum horsepower at 275 and 300 lb. boiler pressure are shown in an accompanying table.



Comparative drawbar-pull-speed chart for the Class J locomotives showing the influence of the change in boiler pressure

The accumulated maintenance cost (charged to ME-308), including class repairs, on the Class J locomotive for 4⅓ years is $13.34 per 100 locomotive miles.

Class A Articulated Locomotive

The Class A is a single-expansion articulated locomotive[2] with a 2-6-6-4 wheel arrangement, and is used for freight and heavy passenger service. These locomotives have a high-capacity boiler, are equipped with cast-steel beds, roller bearings on the engine trucks, drivers, trailing trucks, and tender trucks, and have mechanical lubrication to a total of 238 points. In addition, 98 points are lubricated by pressure fittings. Thirty-five of these locomotives are in service.

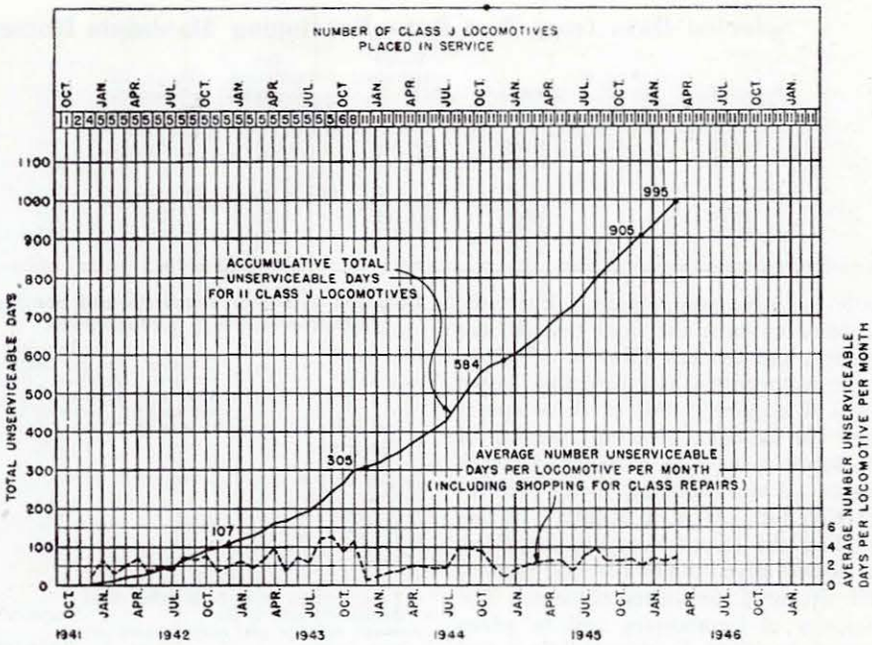
The maximum sustained drawbar horsepower as determined by dynamometer records is 6,300 at 45 m. p. h. The maximum rate of evaporation recorded is 116,055 lb. of water per hour, or approximately 14,000 gallons. The maximum sustained combustion rate is seven tons per hour.

The accumulated maintenance cost (charged to ME-308), including class repairs, for the Class A locomotive is $21.12 per 100 locomotive miles.

General Characteristics of N. & W. Class Y-6 Locomotives

Weight in working order, lb.:	
On drivers	522,850
Engine truck	32,200
Trailing truck	27,850
Engine total	582,900
Tender	378,600
Engine and tender	961,500
Light weight tender	135,200
Boiler pressure, lb.	300
Tractive force (compound) lb.	126,838
Tractive force (simple) lb.	152,206
Grate area, sq. ft.	106.2
Factor of adhesion (compound)	4.12
Factor of adhesion (simple)	3.44
Total engine wheel base, ft.-in.	58-0
Total engine and tender wheel base, ft.-in.	103- 8¼
Total length, engine and tender, ft.-in.	114-10½
Heating surface, sq. ft.:	
Flues	5,217
Firebox	371
Arch tubes	59
Superheater	1,775
Total	7,422
Tender capacity:	
Coal, tons	30
Water, gal.	22,000

[2] A complete description of the 2-6-6-4, Class A, locomotives appeared in the *Railway Age* for Sept. 26, 1936, page 435.



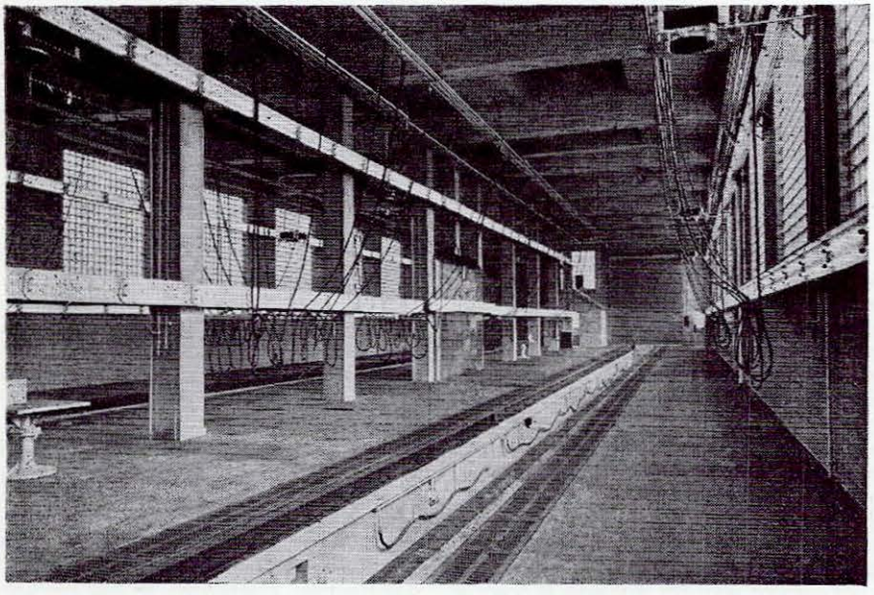
Record of unserviceable days of the N. & W. Class J locomotives for over four years of operation related to the number of units in service

Compound Mallet Locomotives

The type 2-8-8-2 compound Mallet locomotive, Classes Y5, Y6, Y6a, have a calculated tractive force of 126,000 lb. compound, and 152,000 lb. simple. Seventy of these locomotives are in service. Weights, principal proportions, and general dimensions of the Class Y6 locomotive are shown in an accompanying table. These locomotives are equipped with cast-steel beds, roller bearings on the engine trucks, drivers and trailing trucks, and have mechanical lubrication to a total of 213 points.

This type of locomotive is assigned to both time and slow freight service in mountainous territory. Where operating conditions permit, they attain top speeds of 45 to 50 miles per hour with tonnage trains.

The total accumulated maintenance cost (charged to ME-308), including class repairs, is $23.76 per 100 locomotive miles.



Interior of the servicing building at Williamson, W. Va.

Engine Terminal Improvement

One of the factors largely responsible for the increased road locomotive utilization is the improvement made in engine terminals, so that incoming locomotives can be rapidly serviced and made available for quick dispatchment on the same or another train, in either the same or opposite direction. Modern terminal facilities have been provided at Shaffers Crossing (Roanoke), Va. and we have just modernized the facilities for servicing locomotives at Williamson, W. Va., and placed them in service. These are more elaborate and more condensed than the facilities at Shaffers Crossing. The new facilities consist of two major units: (1) a new three-track concrete engine washing platform, combined with hydraulic ash-handling facilities, which will serve six tracks, and four standpipes

Selected Data from Test Runs Developing Maximum Horsepower—Class J Locomotive

Run No.	Speed, m.p.h.	Cutting off, per cent	Train, tons	Water evaporated, lb. per hr.	Dry coal fired, lb. per hr.	Firing rate, lb. per hr.	Pressure, lb. Boiler	Pressure, lb. Steam chest	Pressure, lb. Exhaust passage	Steam chest temp., deg. F.	Avg. drawbar hp.
					275-LB. BOILER PRESSURE						
23	39.15	66	1,065	104,946	15,145	141	270	238	19.9	665	4,795
25	39.07	66	1,065	103,860	13,646	145	274	243	20.6	701	4,784
					300-LB. BOILER PRESSURE						
24	39.14	61	1,065	103,365	14,828	138	287	253	19.0	676	4,806
26	41.03	60	1,065	99,942	13,068	121	295	268	20.2	697	5,028

with the necessary piping. Here the locomotives have the fires cleaned, are washed, the tenders filled with water, boiler water tested, and the boilers blown down if required. All of these operations can be done with one spotting of the locomotive; (2) a new twin-track engine service building with two inspection pits 135 ft. in length. In this building the locomotives are inspected, lubricated, given minor running repairs, and prepared for dispatchment. The majority of locomotives will be given routine handling in this building, and will rarely enter the roundhouse except for periodic inspections.

Track changes were also made to provide a flexible arrangement and facilitate speedy servicing.

In providing these changes, it was found that an old 21-stall roundhouse with a 100-foot turntable, four bucket-type ash hoists, four outdoor engine inspection pits, and other allied facilities could be retired.

The total cost of the Williamson project was approximately $300,000.

If modern steam power is to be used economically, there must be modern facilities for servicing.

Modern steam locomotives can be utilized a greater per cent of the time than conventional locomotives. The total number of passenger locomotives owned by the Norfolk & Western is 81 and of these, 11, or 14 per cent are of modern design. This 14 per cent of our steam passenger locomotives handle 50 per cent of the total passenger car miles.

The total number of steam freight locomotives owned is 339 and of this number, 105, or 31 per cent, are of modern design. This 31 per cent of the steam freight locomotives handle 69 per cent of our through freight gross ton miles, and 59 per cent of the gross ton miles of all freight trains.

Not "Allergic" to Diesels

The Norfolk & Western is not "allergic" to Diesel power plants. We own and operate some Diesel equipment, such as a bunkering barge for refueling ships, and work equipment consisting of bulldozers, shovels, and locomotive cranes. We have an order placed for a 250-ton Diesel wrecking crane.

Under certain conditions, Diesel locomotives can be utilized to advantage. For instance, in traversing desert country where water conditions are extremely bad, the Diesel locomotive works out very well.

Location of Roller Bearings and Service Results—Class J Locomotives

Position	Number roller bearings on each locomotive	Total number engine failures resulting from roller bearing failures, 11 Class J locos.
Engine trucks	4	0
Drivers	8	0
Trailer trucks	4	0
Tender trucks	12	0
Wrist pins	2	0
Crank pins	8	2
Valve Gear	28	0
Total	66	2
Total mileage accumulated by 11 Class J locomotives since built (Oct. 1941 through March, 1946)		5,228,295
Average mileage per roller-bearing engine failure		2,614,148

In other cases, where the strength of the bridges and track structure have to be taken into consideration, the wheel loads of the modern steam locomotive cannot be sustained. Again, the Diesel locomotive with a multiplicity of driving wheels works out well. For certain yard switching operations, where Diesel locomotives can be used around the clock, and the cost of coal is excessive, the Diesel can be used to advantage.

The Norfolk & Western serves the bituminous coal fields of southern West Virginia and southwestern Virginia which produce a great volume of coal. In the year 1945 we handled a total of 47,600,000 net tons of coal other than our own fuel. Naturally, we are interested in the welfare of the coal business. It is our belief that the conventional type of coal-burning steam locomotive can be greatly improved and made at least the equal in efficiency and economy of operation, under most conditions, of any other type of railroad locomotive. Our experience with the operation of the types of locomotive I have just described further confirm us in this view.

* * *

COMMUNICATION...

Proposes Method for Lengthening Life of Ties

TO THE EDITOR:

Many railroads are faced with the prospect that unusually heavy tie renewals will be required in the near future unless something is done to eliminate or minimize the cutting of ties by the tie plates. Many thousands of miles of track that have seen heavy service in recent years are laid with rail that is comparatively light for the axle loads and speeds now prevailing and in prospect, and this rail is supported on tie plates that are inadequate in size and design to furnish the protection now needed. The result is that plate-cutting conditions of almost epidemic proportions are being encountered at many locations.

This situation prevails at a time when the production of ties is considerably below requirements, when the prices of ties are showing an upward trend, and when the cost of installing them is greater because of the recent increases in the wage rates of railway employees. For these reasons it would seem that a searching inquiry is in order regarding the possibilities of extending the life of the crossties now in track beyond that which can be expected under present maintenance practices. Under these practices the excessive damage that is now being done to crossties through tie-plate cutting cannot be eliminated or even reduced until the rail now in track is replaced with rail of heavier section, with larger tie plates. In many locations it will be years before this heavier rail can be obtained and laid, and during the interim the destruction of the ties will continue at a rapid pace.

I am proposing a solution for this problem which may appear to be a drastic one, but I know from experience that it can be applied with highly satisfactory results. In essence, the plan consists merely of installing under the present rail the heavier tie plates that will be placed anyway at a later date when the rail is renewed, or even a still larger plate of better design, which I feel will prove even more economical considering the increasing costs of ties and wages. If this is done, further plate-cutting action will be prevented or minimized, adding service life to the present crossties in track ranging from five or more years at the points of worst abuse to nine or ten years at points where service conditions are less severe.

The writer has developed a method of putting such a plan into effect, which allows the old spike holes to be used when installing the heavier plates, provided, of course, the existing rail is in proper base and head gage, and which will at the same time preclude the necessity of shifting or regaging the new larger tie plates when heavier rail is installed at a later date. This plan has been used by the writer at many points, thereby affording an opportunity to observe the results in the form of longer life for the crossties. Many other benefits were also observed, including a stiffer track construction, elimination of rail creepage,

(*Continued on page 344*)

1945 Railroad Construction Indices

WASHINGTON, D. C.

THE Engineering Section of the Interstate Commerce Commission's Bureau of Valuation has issued its Railroad Construction Indices for 1945, showing that last year's overall index for the country as a whole was 209, up eight points or 4 per cent from 1944's 201 and nine points from 1943's 200. The indices are weighted averages based on the 1910-1914 costs as 100.

The 1945 index for road construction costs was 197, as compared with 187 in 1944 and 186 in 1943. The equipment index at 255 was the same as 1944 and up one point from 1943's 254, while the index of "general expenditures" was 198, as compared with 188 in 1944 and 187 in 1943. The indices for the country as a whole (shown in the accompanying table) are broken down in the bureau's compilation into eight regional sets. "The indices," the statement says, "represent territorial index factors and are of value in indicating trends. They are not necessarily applicable for use in the determination of reproduction costs upon individual railroads."

An accompanying press notice from I. C. C. Secretary W. P. Bartel pointed out that "while the indices for such major items as grading, fabricated steel and equipment show no change, substantial increases are recorded for tunnel excavation, timber, ties, concrete, buildings, and tracklaying and surfacing, and moderate increases for rail and track fastenings."

The accounts for which the indices are shown are primary accounts designated in the Classification of Investment in Road and Equipment of Steam Roads. They are as follows:

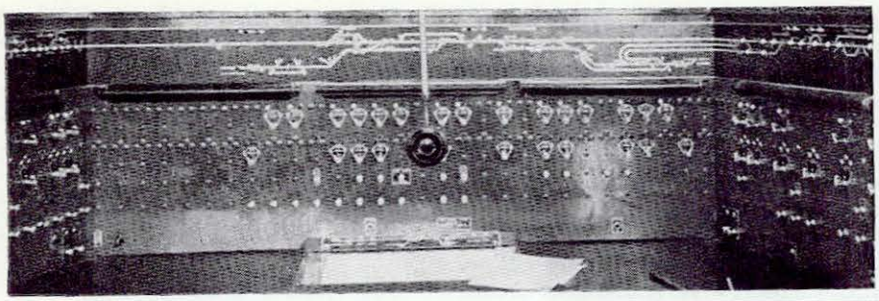
I—ROAD:
1. Engineering
2½. Other Right of Way Expenditures
3. Grading
5. Tunnels and Subways
6. Bridges, Trestles, and Culverts
7. Elevated Structures
8. Ties
9. Rails
10. Other Track Material
11. Ballast
12. Tracklaying and Surfacing
13. Fences, Snowsheds, and Signs
16. Station and Office Buildings
17. Roadway Buildings
18. Water Stations
19. Fuel Stations
20. Shops and Engine Houses
21. Grain Elevators
22. Storage Warehouses
23. Wharves and Docks
24. Coal and Ore Wharves
26. Telegraph and Telephone Lines
27. Signals and Interlockers
29. Power Plants
31. Power Transmission Systems
35. Miscellaneous Structures
37. Roadway Machines
38. Roadway Small Tools
39. Public Improvements—Construction
44. Shop Machinery
45. Power Plant Machinery

II—EQUIPMENT:
51. Steam Locomotives
52. Other Locomotives
53. Freight-Train Cars
54. Passenger-Train Cars
56. Floating Equipment
57. Work Equipment
58. Miscellaneous Equipment

III—GENERAL EXPENDITURES:
71. Organization Expenses
72. General Officers and Clerks
73. Law
74. Stationery and Printing
75. Taxes
76. Interest During Construction
77. Other Expenditures—General

REGIONS I TO VIII, INCLUSIVE
Tabulation of Indices by Years and by Accounts Applicable to the Entire United States

Acct.	Per cent	1915	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44	'45
ROAD																																
1	2.83	101	110	134	159	178	214	175	157	171	171	166	166	164	161	160	152	143	131	127	131	131	133	142	138	137	140	151	175	186	187	197
2½	...	104	107	127	151	172	198	161	154	168	165	161	159	156	155	155	151	143	121	117	127	132	132	141	137	135	134	145	174	185	190	201
3	18.19	100	110	130	165	190	250	170	143	160	164	149	153	143	135	133	123	118	106	98	100	101	99	103	93	90	90	99	135	142	143	144
5	1.51	103	109	128	150	183	208	179	165	179	179	178	169	155	155	143	130	119	111	122	120	130	139	141	140	149	160	192	223	219	236	
6	9.41	105	111	146	162	178	206	165	160	176	173	171	170	168	164	163	150	134	122	122	136	135	141	155	150	149	156	174	210	227	222	240
7	0.04	102	124	169	177	184	210	150	153	173	171	168	165	163	163	162	154	144	129	122	136	136	137	158	150	149	159	175	209	236	231	249
8	5.58	100	100	112	133	170	201	189	157	177	175	172	173	175	176	175	170	155	144	139	149	147	150	159	154	158	164	181	199	228	234	241
9	8.57	101	106	121	148	152	168	158	144	145	145	144	144	144	144	144	144	144	140	134	123	123	124	143	139	136	138	139	144	144	146	152
10	3.39	99	129	198	210	203	209	192	161	182	179	177	177	177	177	177	170	169	165	163	158	150	147	150	169	169	167	167	170	175	173	172	176
11	4.09	103	107	114	140	150	207	191	176	175	175	174	175	176	176	176	168	159	146	146	141	139	140	143	143	143	143	153	170	175	175	181
12	4.35	100	100	130	163	175	218	174	165	188	188	188	188	188	188	188	182	175	164	157	159	165	165	169	167	165	165	178	209	241	252	273
13	0.65	100	120	138	174	193	211	192	179	183	183	180	178	179	179	177	175	168	147	135	140	140	138	145	145	141	141	150	168	179	179	189
16	4.42	101	115	135	154	185	215	192	180	194	193	188	184	189	188	187	182	165	141	145	151	151	157	166	166	166	177	188	208	219	227	244
17	0.51	100	115	136	156	185	216	192	178	196	196	189	187	192	191	190	186	166	140	145	150	150	150	162	162	162	177	186	206	226	237	258
18	0.82	101	120	159	170	191	213	185	178	187	187	186	182	185	186	184	177	161	147	151	155	155	156	166	166	166	172	185	195	208	214	227
19	0.26	101	120	153	160	190	212	181	166	185	185	182	180	183	183	183	174	159	144	149	154	154	153	159	159	159	163	187	205	216	222	242
20	2.16	102	118	141	159	188	216	191	180	193	192	188	185	189	188	187	176	161	137	142	147	147	155	165	165	165	176	188	204	216	223	248
21	0.09	100	110	128	150	185	214	190	184	197	197	193	190	195	193	193	182	165	137	142	147	147	156	164	164	164	166	200	208	213	217	236
22	0.04	100	115	135	155	185	210	193	178	198	198	193	189	193	191	191	184	165	137	142	147	147	154	166	166	166	176	195	207	218	226	253
23	0.53	100	114	133	152	178	204	167	158	175	175	174	177	178	178	178	172	158	136	141	146	146	149	153	153	153	161	167	212	226	234	255
24	0.44	101	117	145	155	184	204	170	159	176	176	174	174	176	176	176	172	157	136	142	147	147	151	153	153	153	160	185	199	211	215	236
26	0.34	103	124	147	158	164	192	191	162	187	179	163	157	163	165	165	150	138	121	119	124	128	131	135	129	129	134	143	156	165	165	173
27	1.58	94	106	132	152	165	175	163	158	165	164	162	168	158	155	154	147	138	130	130	133	136	138	143	143	143	146	156	165	176	176	176
29	0.16	104	122	141	158	189	218	197	184	196	196	191	186	191	191	189	177	162	138	143	148	148	152	167	167	167	176	194	204	213	219	246
31	0.61	109	145	174	189	190	207	175	164	180	174	175	176	176	179	183	175	149	143	143	147	149	150	154	148	148	153	162	167	171	171	180
35	0.04	101	117	137	156	186	217	192	179	195	195	190	186	191	190	189	182	164	141	146	151	151	154	161	161	161	168	178	183	198	208	229
37	0.08	105	113	127	146	158	170	162	149	151	151	151	151	151	149	148	147	144	138	138	147	147	147	161	153	154	158	169	169	187	187	187
38	0.05	100	100	179	179	184	202	181	170	173	185	190	190	191	191	190	160	155	155	150	150	150	160	170	180	180	180	190	200	200	200	200
39	1.07	104	108	137	161	182	208	171	164	178	175	171	169	166	165	165	161	153	131	127	139	137	139	152	145	142	146	163	198	208	203	217
44	0.95	115	126	155	192	200	210	198	173	183	185	185	186	187	189	191	176	166	155	155	179	179	179	198	200	202	212	224	224	228	236	236
45	0.33	115	126	155	192	200	210	198	173	183	185	185	186	187	189	191	176	166	155	155	168	166	171	180	177	180	189	194	194	190	190	191
Wtd. Ave. 1-45	73.09	101	110	134	159	178	214	175	157	171	171	166	166	164	161	160	152	143	131	127	131	131	133	142	138	137	140	151	175	186	187	197
Acct.	Per Cent	1915	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44	'45
EQUIPMENT																																
51	5.42	86	102	145	189	202	248	192	179	197	185	171	191	190	179	188	194	184	168	166	176	188	188	201	201	201	215	230	255	265	265	265
52	0.10	100	117	137	184	184	217	197	196	198	199	192	194	202	203	221	221	210	175	165	185	190	190	198	199	190	190	203	185	173	173	173
53	11.22	101	148	183	243	267	284	184	156	200	179	171	163	178	169	185	181	161	144	144	165	177	180	191	190	198	204	218	239	254	254	254
54	2.16	89	104	132	164	197	213	169	152	192	187	183	189	191	180	183	181	178	161	161	173	182	182	195	195	194	200	213	230	240	240	240
56	0.48	107	125	164	227	245	239	200	175	170	170	170	170	170	170	170	165	158	148	148	158	160	160	171	171	171	176	188	207	220	229	238
57	0.56	96	128	165	225	244	263	193	168	203	183	188	180	192	184	195	191	178	165	165	177	180	180	197	197	200	208	220	247	254	254	254
58	...	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Wtd. Ave. 51-58	19.94	96	130	166	219	240	265	185	163	198	182	173	174	183	174	186	185	170	153	153	169	180	181	195	194	198	206	220	242	254	255	255
GENERAL EXPENDITURES																																
71-75 & 77	0.89	101	110	134	159	178	214	175	157	171	171	166	166	164	161	160	152	143	131	127	131	131	133	142	138	137	140	151	175	186	187	197
76	6.08	102	111	135	161	181	216	176	158	172	172	167	167	165	162	161	153	144	132	128	132	132	134	143	139	138	141	152	176	187	188	198
Wtd. Ave. 71-77	6.97	102	111	135	161	181	216	176	158	172	172	167	167	165	162	161	153	144	132	128	132	132	134	143	139	138	141	152	176	187	188	198
1-45	73.09	101	110	134	159	178	214	175	157	171	171	166	166	164	161	160	152	143	131	127	131	131	133	142	138	137	140	151	175	186	187	197
51-58	19.94	96	130	166	219	240	265	185	163	198	182	173	174	183	174	186	185	170	153	153	169	180	181	195	194	198	206	220	242	254	255	255
71-77	6.97	102	111	135	161	181	216	176	158	172	172	167	167	165	162	161	153	144	132	128	132	132	134	143	139	138	141	152	176	187	188	198
Wtd. Ave. 1-77	100	100	115	142	173	193	226	177	159	177	174	168	168	169	164	166	160	149	136	133	140	142	143	153	149	149	153	165	188	200	201	209



Left—The C. T. C. control machine is located in a tower at Gordonsville, Va. Below—Eastbound passenger train approaching intermediate signal 1751

C.T.C. Saves Train Time on the C. & O.

Installation increased capacity of 30 miles of busy single track handling up to 50 trains daily

THE Chesapeake & Ohio has installed centralized traffic control on a busy 30-mile section of single track between Charlottesville, Va., and Orange. Between Richmond, Va., and Clifton Forge the C. & O. has two separate single-track lines. The longer line to the south via Lynchburg is along the James river at low grade, and, therefore, is used primarily for heavy tonnage freight trains. The second line further north, via Gordonsville and Charlottesville, on which the new C. T. C. is located, handles all the through passenger trains as well as certain freight trains, as will be explained later. At Gordonsville, a single-track line branches off to the north for 9 miles to Orange, Va., where a connection is made with the Southern. The through trains of the C. & O. use the Southern tracks between Orange and Alexandria, Va., and thence to Washington, D. C.

Certain passenger trains, such as the "George Washington" and the "Sportsman," are operated in two sections each way daily. One section operates between Richmond and Cincinnati and the other between Washington and Cincinnati. As a result, the daily traffic includes 18 passenger trains on the Charlottesville-Gordonsville section, 8 on the Gordonsville-Washington route, and 10 on the Gordonsville-Richmond section.

At Lindsay, which is 5 miles west of Gordonsville, a line, known as the Virginia Air Line, branches off to the south for 29.3 miles to Strathmore, which is on the James river low-grade freight route. Coal and other heavy freight, moving to and from Washington, is routed via Orange, Gordonsville, Lindsay and Strathmore. On the other hand, fast merchandise and local freight trains operate on the routes via Clifton Forge, Charlottesville, Gordonsville and Washington or Richmond. The schedules include 10 freight trains daily, with numerous extra sections as required. In connection with the James River line, all freight trains over the Virginia Air Line originate or termnate at Strathmore. A manifest freight train operates each way daily between Strathmore and Potomac Yard, a mixed local train operates from Strathmore to Orange and return daily except Sunday, while coal and heavy freight trains run from Strathmore to Lindsay, where the loads are picked up by crews out of Charlottesville destined for Washington or Richmond.

Capacity Increase Needed

On the return trip from Lindsay to Strathmore the crew handles loads and empties destined for the James River line and points west. There is also a daily freight train each way, Richmond to Washington, via Gordonsville and Orange. The number of trains between Lindsay and Gordonsville is greater than on adjacent sections to the east or to the west, ranging during peak periods up to 50 daily. Thus, the reason for installing centralized traffic control was to increase the track capacity and improve the flexibility of operation so that trains could be advanced promptly without losing time waiting at junctions or on sidings. In brief, the benefits in saving train time have been very satisfactory.

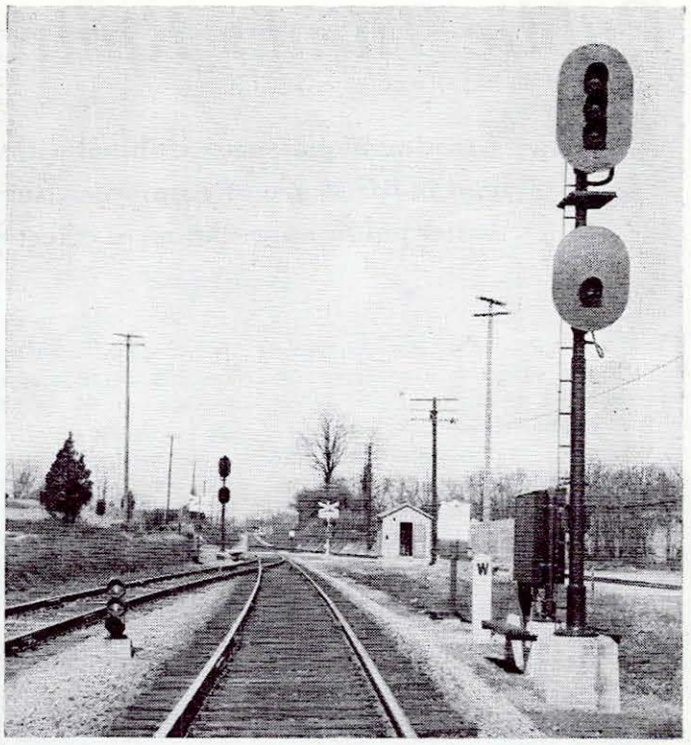
Character of the Line

On the new C.T.C. territory, between Charlottesville and Orange, via Gordonsville, the railroad traverses rolling hilly country with numerous short grades. The longest grade, about 3 miles, between Massie and Keswick, ascends eastwardly, ranging from 0.62 to 0.96 per cent. The longest grade adverse to westward movements is from Rugby to Keswick, about 2.5 miles, ranging from 0.35 to 1.15 per cent. The maximum grade on the Gordonsville to Orange segment is 1.31 per cent, near Gordonsville. This grade is about one-half mile long and adverse to westward movements. On the junction layout at Gordonsville, the curvature is 10 deg. Elsewhere between Orange and Charlottesville there are numerous curves ranging up to about 6 deg. The maximum permissible speeds are 65 m.p.h. for passenger trains and 40 m.p.h. for freight trains.

Changes at Gordonsville

Previously there was an electric interlocking controlled jointly from a table-lever machine and a 2.5-ft. C.T.C. panel machine, located in a frame tower at Gordonsville. The electric interlocking

controlled the signals and switches at the junction of the wye with the Washington line on the north, the Richmond line on the south, the crossovers between the Richmond and Washington lines and entrance to the east end of the 100-car passing siding, just west of the station, together with the switch and signals at the west end of this siding. These power-operated switches and signals were so located that they fitted into the new C.T.C. system with practically no change.



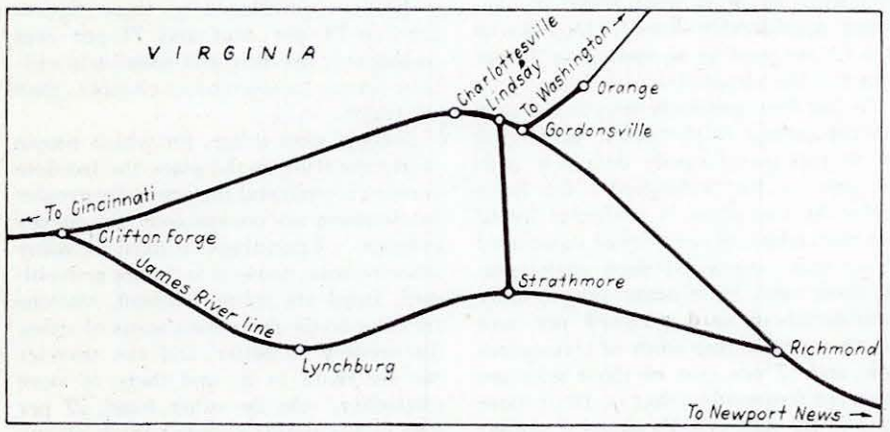
Signal layout at the north end of the South Orange passing siding

Signal Changes

Automatic block signaling, using color-light signals and intermittent inductive train stop system, has been in service throughout the Orange-Charlottesville territory since 1927. When the original color-light signals were installed in connection with the train stop installation, they were all so located that there was no respacing required to get proper braking distance or to provide the necessary protection at the ends of the sidings and yards. The original color-light dwarf signals located at clearance point at the ends of sidings were changed from two-indication to three-indication so as to provide a Clear-Slow indication for movements to the main line whenever block conditions permit. On the station-entering signals the bottom single yellow light unit was replaced with a two-light yellow-and-red unit, which displays red normally, or yellow to direct trains to enter the siding. The main-track leave-station high signals were already located opposite the clearance point on the siding, and no change was required since they already provided the standard absolute stop aspect, Rule 292.

At all the main-track switches which were left on hand-throw, the old switch stands were replaced with Style T-20 hand-operated switch mechanism, in reality hand-operated switch-and-lock movements, including lock rods and plungers, thus giving the same facing-point-lock protection as an interlocked switch. An electric lock is also applied to the hand-throw lever of the T-20 switch mechanism in a manner to lock the lever in the normal position. These locks are controlled by levers in the C.T.C. machine.

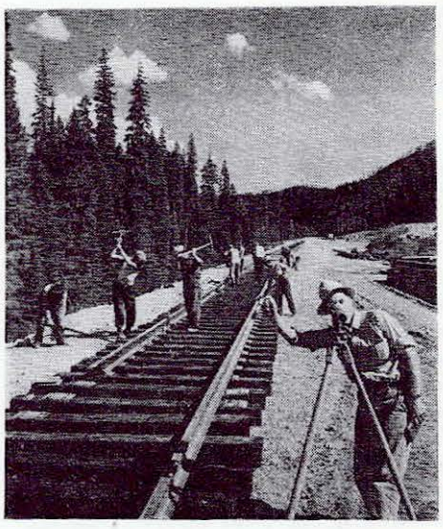
Sketch of the C. & O. routes in this territory



The control machine, located in a new brick tower at Gordonsville, is U-shaped, the center panel being 5 ft. long and each of the two wing panels 2½ ft. long. The panel at the right includes the controls for the section between Orange and the north siding at Gordonsville. The center panel includes Gordonsville and Lindsay, and the left panel Campbell to Charlottesville. On the track diagram is a separate lamp to indicate track occupancy of each intermediate block section so that the leverman has exact information of the progress being made by trains.

On the track diagram there is also a lamp on the line representing each controlled siding, which is lighted when the corresponding siding is occupied. This requires a track circuit on each siding. An automatic train graph is located in the top of the desk of the control machine. This graph has 19 pens to record track-occupancy of a corresponding number of OS track sections.

This project was planned and installed by the signal forces of the Chesapeake & Ohio.



Great Northern Railway Photo

Track laying on relocation of double-track line along Flathead river, bordering Glacier Park near Red Eagle, Mont.

Public Thinks Railroads Can Do Better

Growing impatience exhibited with what is regarded as poor service and indifference of employees, survey shows—Little evidence of a better public appreciation of effect of subsidies on ability to progress

WASHINGTON, D. C.

THE public today is *not* convinced that the railroads are giving the best service of which they are capable, and it is convinced that the airlines are much superior to the railroads in the quality of their personal service. These conclusions are among the significant results of the 1946 survey of public opinion made for the Association of American Railroads by the Opinion Research Corporation of Princeton, N. J. As the sixth annual survey of this type made for the railroads, this study gives, in conjunction with those preceding it, a graphic portrayal of the development of trends of public opinion, favorable and unfavorable, about the railroads and their standing in relation to competing forms of transportation.

Among favorable factors, the latest survey discloses that there is less sentiment in favor of government operation of railroads than there has been in any of the six years these investigations have been made. Only 13 per cent of the people now say they think it would be a good thing for the federal fovernment to take over the railroads, and two out of every five who do favor government operation give as their reason a belief that the government could "keep down strikes." (At the time of the 1946 survey, labor troubles on the railroads were conspicuous in the news.) In 1941 almost half (46 per cent) of the people liked the idea of government operation. This percentage dropped subsequently, but many of those who held that opinion during the war gave as their reason a belief that the railroads were so directly a war industry that their central control for military purposes would be desirable.

Against Government Operation

Of the 75 per cent of the public opposed to government operation of railroads (12 per cent of those interviewed had no opinion), the great majority had no fondness for the government's being in any kind of business.

In previous years many of the questions asked in the survey had to be associated with the war effort, but the emphasis in the 1946 survey is on the post-war prospect. Three-fourths of the people consider the railroads the form of transportation most important to the country's business, while trucks received 16 per cent, airlines 8 per cent, and domestic water services one per cent of the vote. In the next few years, according to the views of 71 per cent of the people, the railroads will haul the largest share of freight. Of the 18 per cent who look for the trucks to surpass the railroads in this respect, the majority mentioned the versatility and convenience of the truck as reasons for their conclusion.

Among the three types of passenger transportation mentioned—that is, rail, bus and air—the railroads will lead the field in passenger traffic according to 57 per cent of the people. Of the others, 24 per cent expect to see buses in the lead, while 18 per cent put their faith in the airlines. In spite of this expression, however, only 49 per cent of the people say they would rather travel by train than by plane if the fares were equal, while 46 per cent favor the plane and 5 per cent have no preference. The proportion favoring train travel has declined considerably since 1943, when it was 61 per cent as compared to 35 per cent for the airplane.

As has been generally true in the past, the percentage of the public preferring air to rail travel varies definitely with the age of the individual. Of those under 30, the plane is preferred by 62 per cent, while 33 per cent of those aged 45 or more expressed such preference. Of those who have made one or more commercial plane flights, 79 per cent say they prefer that form of transportation, and 57 per cent of those who use the train frequently (that is, 10 or more trips in the past year) express a similar choice. On the other hand, 60 per cent of the people who made no train trips in the past year say they would prefer the train to the plane, and the same proportion of dwellers in rural communities have that opinion.

Despite this larger expression of preference for air travel as compared to train travel, the public recognizes some of the advantages the railroads have over the airlines, the survey shows. For example, 59 per cent consider the railroads safer, as compared to 11 per cent rating the airplane first in this respect. (Of those who recently have traveled by air, however, 34 per cent say the train is safer, while 27 per cent consider their safety is greater by air.) Another field in which the railroads are considered to have a definite advantage is in dependability of service, where 54 per cent of the public says the train is more likely to get the traveler to his destination on time as compared to 26 per cent giving the plane a superior rating in this respect. On this question even the recent air travelers agree with the general impression, their vote being 45 per cent for the train and 32 per cent for the plane. Among frequent users of the railroads, 64 per cent consider the train more dependable, as compared to 20 per cent favoring the airlines.

Railroads More Economical

On the matter of economy, a great majority of people think the railroads have an advantage over the airlines. Only 3 per cent believe the one-way fare is lower by plane than by train, while 5 per cent believe the round-trip fare is lower. Contrasted to these figures are the 74 per cent and 71 per cent considering one-way and round-trip railroad fares, respectively, cheaper than air travel.

Among other things for which people prefer the train to the plane the freedom to move around and the generally greater spaciousness are conspicuous, the survey indicates. Train travel is liked for many other reasons, too— it is "more convenient," stops are more frequent, stations are close to the downtown areas of cities, the scenery is better and the traveler can see more of it, and there is more sociability. On the other hand, 27 per cent of the people couldn't think of any reason why they like to travel by railroad.

Air travel has two outstanding advantages, as the general public appraises it. Speed, of course, is the asset most frequently mentioned, while the second in importance is quality of service. Other advantages as to which relatively small proportions of the public mention the airlines include cleanliness, comfort and convenience. Neither form of travel has any particular edge in the rating on comfort, however, as 35 per cent prefer the railroads and 34 per cent the airlines. On this point 21 per cent of the people have no opinion. Expressions of prefereuce for air travel are to be weighed against the fact that 59 per

cent of all the people either have not traveled by plane or for some other reason can give no answer when asked what feature of air travel they like best. Of those who have used planes recently, 82 per cent give speed as a reason for liking that kind of transportation and 17 per cent mention cleanliness.

On the quality of their personal service the airlines are much superior to the railroads, in the estimation of the public. Specifically, 10 per cent of the people say the railroads have the friendliest and most courteous employees, 37 per cent say the airlines have, 13 per cent say they rate the same, and 40 per cent have no opinion. But among frequent travelers by train, 54 per cent say the airlines' employees are better, while only 9 per cent give railroad employees a higher rating. Of those who have had recent experience with airline employees, 71 per cent say they are more courteous and friendlier than railroad employees, while only one per cent put the railroad employees ahead.

Low Rating on Courtesy

Considering the matter from another angle, it develops that 51 per cent of the people in the upper income brackets consider the airlines' employees superior in courtesy as compared to seven per cent favoring the railroad employees. Fairly substantial deviations in opinion on this subject were registered in different sections of the country, incidentally, as railroad employees receive a higher rating from 13 per cent of the people in the East, 8 per cent in the Middle West, 14 per cent in the South, and 7 per cent in the Far West. Preference was expressed for airline employees in the same regions by 39, 37, 27 and 42 per cent of the people, respectively.

Looking for the public's opinion of railroad service from various points of view, this question was asked in the survey: Are the railroads doing the best they can to give good service, or could they give better service than they give now? Almost two-thirds (63 per cent) of the people say the railroads are doing the best they can; 28 per cent say they could do better. But considerable significance is seen in a comparison of these results with those obtained in the 1945 survey, when nine per cent of the people thought the railroads could give better service despite the war than they were giving. The report of the survey comments that "since the people were conscious of the railroads' excellent wartime record, they undoubtedly were willing to overlook and excuse inconveniences that they will not overlook today."

The unfavorable rating of the railroads' service is particularly prevalent among frequent travelers by train, of whom no less than 41 per cent think the railroads could give better service than they are giving. Apart from generalizations, those of the general public who think the railroads can do better called for such improvements as these: Cleaning up trains and stations; more courtesy from employees; more equipment, particularly more passenger cars; "better labor"; more expenditures and more evidence of determination to give good service.

A third of the general public are aware of recent complaints about railroad passenger service, the survey shows. Of those who traveled frequently in the past year, 55 per cent reported complaints. Whereas 64 per cent of those who heard complaints in 1945 mentioned overcrowding, this was named by 43 per cent in this year's study. Thirty-six per cent of the complaints reported by the general public in 1946 apply to uncomfortable, old and dirty cars, while 51 per cent of the frequent travelers mention such conditions. Other complaints cover such difficulties as late trains (mentioned by 18 per cent of the regular travelers); rude or careless employees; indifferent service or food in dining cars; Pullman accommodations unavailable; and fewer trains.

When people who have heard recent complaints about railroad passenger service undertake to assign the responsibility for such conditions, railroad management is blamed by 31 per cent and war-time difficulties by 17 per cent. Last year 30 per cent of the people blamed the war and only 11 per cent blamed railroad managements for what they considered poor service. Among other causes mentioned in the 1946 survey are the volume of passenger business as compared to pre-war traffic, indifference of employees, lack of personnel and equipment, the "unions" and the "government."

Those who have traveled by train recently were asked additional questions to bring out their opinions of railroad employees. In 1942 seven per cent of these travelers were critical of employees; this percentage has increased each year since, particularly in the past two years, and 17 per cent of them are critical this year. When those who say employees are less accommodating than they were a year or so ago are asked in what ways this trend is most noticeable, they mention such things as rudeness, lack of effort, appearance of overwork, and insufficient personal service. However, only 15 per cent of the recent travelers think employees are less accommodating than they were a few months ago, while 43 per cent see no difference and 33 per cent report improvement. Frequent riders are even more favorable in this respect, as 41 per cent find the employees more accommodating recently, with 18 per cent expressing the opposite view.

There is room for improvement in railroad freight service, too, in the opinion of two out of five people. A year ago 45 per cent of the people thought the railroads able to handle freight satisfactorily during the war, but only 40 per cent think they can do so now. The 40 per cent that believe the railroads are not now able to handle freight satisfactorily mention shortages of men (27 per cent) and equipment (26 per cent), union trouble (18 per cent), too much business, poor management, disinterested employees, and interference from the government as reasons for this situation.

Call 10 Per Cent Profit Fair

Three-fourths of the people say the railroads are making a profit, a slight decrease from last year's 81 per cent, but the proportion of people who think they are making too much profit has not decreased—it remains 10 per cent. Half the people who say the railroads are operating at a profit cannot hazard a guess as to what that profit is, but among those who do have an opinion the average (median) estimate is 15 per cent, the survey shows. Only 8 per cent of those who think the railroads are making a profit put that profit at 5 per cent or less, while a fourth of them think the railroads are making at least a 20 per cent profit. Half the people, roughly, have no idea what is a fair profit for the railroads to make, but among those who have an opinion on this, the average estimate of a fair profit is 10 per cent. Of the people in general, 17 per cent think a fair profit for the railroads would be 20 per cent or more.

As pointed out in the report of the 1945 survey (reviewed in *Railway Age* of November 3, 1945, page 717) all the political agitation over freight rates has made little impression on the general public. The 1946 survey shows that freight rates are even less in the public's mind than they were a year ago, and this is true in the South as in other sections. Only 17 per cent of the people have heard or read of criticism of freight rates recently, as compared to 26 per cent in 1945. While a greater proportion of Southerners (33 per cent) have heard or read about rates recently, the percentage of them who feel that their rates are higher than in other sections has declined (34 per cent as compared to 47 per cent).

Little evidence appears in the present survey that the public is better informed than it has been in the past about government aids to the different types of transportation, and it is still true that a majority of the people are not aware that the government is doing anything to help any form of transportation. Altogether, 69 per cent of the people cannot think of any way the government is helping transportation, and 75 per cent

of them think each form of transportation (railroads, bus and truck lines, airlines and waterways) has an equal chance now to make a profit. (The 1945 survey showed that 52 per cent thought each form had an equal chance before the war.)

Of the minority who understand that the government is aiding transportation, the greater number mention airlines as the recipients of such aid (through loans and subsidies and building airports), while 5 per cent of the people are aware of aid to highway transportation, especially in the form of highway maintenance, and 4 per cent of aid to water carriers through maintenance of waterways. Three per cent say the railroads are aided by loans and subsidies or mail contracts.

On the theory that all should be treated the same, 64 per cent of the people apparently subscribe to the principle that the government should not help one form of transportation unless it also helps the others, but there is a substantial group (24 per cent) that say they believe in giving such help on the basis of need or of public or military importance. Taking another slant at this principle, about two-thirds of the people recognize that one form of transportation has an advantage over its competitors if the government bears part of the cost of the terminal facilities it uses, but a large proportion exhibit no repugnance toward such government assistance. The largest percentage approval of government assistance (54 per cent) is expressed for air terminals, but 47 per cent would approve the use of government funds in building a railroad station.

Tested Technique

The technique followed in making the 1946 survey was closely like that used previously and described in *Railway Age* last November in the article referred to above. Almost the same number of persons were included in the sample (2,452 as compared to 2,492 in 1945) and the territorial, age, income, sex, and residential relationships were allocated on the same basis. One change has been made in the presentation of results in the current survey, however. In previous reports for the A. A. R., people who had no opinion on a particular question were taken out of the total before the percentages were computed for the different replies, the reason being that such a group probably would divide in about the same way as those who have opinions.

It was felt, however, that the inclusion in the total of the group without opinions provides "a more realistic picture of the actual status of public opinion toward the railroads," the report explains, since, in a public relations audit, the people who have no opinion on a given issue are particularly important. In order to keep the figures from all of the surveys comparable, results of previous studies have been recomputed on this basis where comparisons are given between 1946 and other years. The effect of that adjustment is to reduce slightly (rarely more than two or three percentage points) the proportion of people reported as having some particular opinion.

* * *

COMMUNICATION . . .

(Continued from page 338)

the increased ability of the track to hold proper gage, and a 20 to 25 per cent reduction in the labor required to maintain the track.

As an example of the manner in which the idea would be applied, consider a territory now laid with 90-lb. rail which is to be replaced with 112-lb. steel (or a territory where 100-lb. or 110-lb. rail is to be replaced with 131-lb. rail). Disregard those points to be laid with heavier rail in the following year, as the ties at these locations will automatically receive the protection of larger tie plates when the new rail is laid. On the remainder of the territory simply institute a program for replacing the tie plates under the existing rail with the new larger tie plates that are considered economical for future protection, giving attention first, of course, to the points of greatest abuse. This work can be programmed and handled in the same manner as any rail renewal job would be, with a comparatively small force and at hardly any additional *ultimate* expense, simply doing work today that will have to be done eventually when the heavier rail is installed.

The use of larger tie plates with the existing rail is made possible with the aid of metal adapters shaped to fit the rail base of the smaller rail and also designed to fit in place (as would the rail base of the larger section) between the shoulders of the new larger tie plates. Also, the shape of the adapters is such that the gage line of the rail will be the same after the new tie plates are installed.

In the absence of new larger tie plates, installed in the manner described, the plate-cutting of the ties, once it starts, progresses at an increasing rate. This is true for a number of reasons, including the fact that when the plate has penetrated past the preservative shell, exposing untreated wood, decay becomes a factor in helping speed the process. Also, the depression created holds moisture and abrasive material, both of which help to accelerate decaying and cutting action. Furthermore, when the old tie plates are examined critically, it will usually be found that they have developed sharp edges and that the spike holes have become enlarged due to wear and corrosion, so that the plate is free to shift about on the tie. When new ties are spotted in, these tie plates soon become loose, no matter how firmly they are spiked initially, and thereby become the source of a new cycle of abuse.

Even at locations where heavier rail has been installed in recent years and supported on tie plates that were considered at the time to be the most economical size, an examination of the track will sometimes reveal that the heavier power in use today, moving at present-day speeds, is overloading the new plates, indicating that the ties will be subject to considerable damage due to plate-cutting in the near future. In general the reason for this is that the new plates approximate too closely the size and area of those displaced, and do not cover enough bearing and spiking area to result in the most economical protection for the ties.

Using the scheme proposed here there are many locations where annual savings of $500 to $1,500 per mile are possible under present tie and labor costs. In addition, a better track condition for higher speeds would be attained, which would have advantages that are not possible to figure in dollars and cents. It has been my experience that in many difficult locations the savings obtained through extended tie life alone will frequently pay for the cost of inserting the new tie plates many times over before the new rail is installed. Another advantage is afforded by the reduced cost and greater speed with which the heavier rail can be installed subsequently, when it will only by necessary to pull the spikes holding the old lighter rail and to set the new section in place and fasten it down.

In my opinion the prospect of achieving substantial savings through longer tie life in the manner I have outlined is worthy of investigation by railroad men who are concerned by future operating costs and are seeking ways to reduce them, or at least to hold them to the past level.

RETIRED TRACK SUPERVISOR

NEW BOOK . . .

Rights of Trains—Third edition, by Harry W. Forman, revised by Peter Josserand. 561 pages. 7¼ by 4½ in. Bound in cloth. Illustrated. Published by Simmons-Boardman Publishing Corporation, 30 Church St., New York 7, N. Y. Price $3.50.

This standard book, which has been reissued and brought up to date, is of more value than ever in its present form. Mr. Josserand has done a brilliant job of re-editing and bringing the book up to date to conform with modern railway practice. Subtitled "A complete analysis of single track standard code rules," this book is just that. It takes each rule of the 1938 revision of the Association of American Railroads' Standard Code of Operating Rules, including the rule revisions published on July 20, 1942, and gives a thorough analysis.

Especially to be commended are the section on Rule 93, in which the author warns of the hazards of placing yard limit boards at unimportant stations in order to permit local trains to switch without flag protection, and the discussion of the inherent dangers in a faulty order system, by which all of the safeguards of the double order system are "thrown out the window."

The book has a definite and important place on the desk of every operating man and others interested in train rules on American railways.

GENERAL NEWS

Dominion Okays Air Line Control by RRs

Reverses former policy to let railways retain their air routes

Political leaders of our good neighbor to the north, the Dominion of Canada, are peculiar fellows—they make mistakes and, when they do, admit their error and publicly change their course. This is what Reconstruction Minister C. D. Howe has done with the government's policy requiring the two principal railways—the Canadian Pacific and the Canadian National — to divest themselves of their airline properties.

The Canadian National has a cross-Canada airline, Trans-Canada Air Lines, while the Canadian Pacific operates a number of important routes—mostly north-south —at various places across the Dominion. In 1944 Mr. Howe decided that railroading and airlining did not mix and he decreed a divorce, which was subsequently enacted into legislation. The "deadline" was to have been May, 1946, but this was advanced to May, 1947, and Mr. Howe has now announced that he will ask for repeal of the legislation requiring the divorce of railway control of the principal Dominion air routes.

An "Evolution"—"No man likes to change his mind; nevertheless I have always believed that it is better to admit it when you have made a mistake. I think in the light of the evolution which has occurred since I made the statement [decreeing the divorce] I can say that the system which is operating today is the best situation for giving service to the public in the territory in question.

"The Government policy has not been changed, and will not be changed, naturally, until the act is changed. The House of Commons must approve any change of policy, because they passed the act which established the earlier government policy."

Mr. Howe went on to say that when he announced the divorce policy in 1944 a great many House of Commons members were sure he was wrong but "that gave me no pause whatsoever. At that time the public was not getting the service it was entitled to." He said also that, in 1944, relations between the government and the C. P. R.'s airlines were "far from satisfactory" and that "the non-competitive position of the Trans-Canada Air Lines was being challenged."

Plane Costs Rise—Now, however, according to Mr. Howe, all this has changed. There is close cooperation all around and service has greatly improved. Moreover, Mr. Howe found that breaking the C. P. R.'s airlines up into smaller companies was not going to be such an easy task. In addition, planes cost a great deal more money than they formerly did—up to $1,000,000 each—so the business is not one which can be entered by persons with small resources of capital.

Finally, Mr. Howe said that in 1944 "Canadian Pacific Air Lines were very ambitious to extend their territory over other parts of Canada. Today they find they have a sufficient task to develop the parts of Canada for which they were then and are now responsible for giving service, with the result that any new air lines that care to enter the business and are able to finance their operation can find a scope for their activities in parts of Canada not at present served."

Former M. R. S. Officers Meet

A group of former Military Railway Service officers met at a luncheon at the Traffic Club in Chicago on August 14 for the purpose of forming an association to hold regular monthly meetings on the second Wednesday of each month. Col. Ralph O. Jensen, superintendent, Soo Line, Schiller Park, Ill., presided, and the meeting was addressed informally by Maj. Gen. Carl R. Gray, Jr., vice-president, Chicago & North Western, Chicago, and Charles Layng, western editor of the *Railway Age*. It was decided to open the regular monthly meetings to enlisted personnel of the M. R. S. as well as officers. Those interested are requested to communicate with Colonel Jensen or General Gray.

G. M. & O. Awarded Contract to Run Post Office Truck

The Gulf, Mobile & Ohio has been awarded a contract to furnish the necessary equipment and drivers and bear the cost of operation and maintenance for the first "Highway Post Office" to be operated by a contract carrier, it was announced in Washington, D. C., on August 21 by Postmaster General Robert E. Hannegan. The G. M. & O. will receive $30,000 annually for its services over the 182.9-mile route between Union, Miss., and Mobile, Ala. Service will start September 9.

According to Second Assistant Postmaster General Gael E. Sullivan, more highway post offices will be established "as equipment becomes available." He explained that highway post offices transport the mails in localities where there is no train service or where such service is inadequate to meet the needs of the public. Mail is picked up and delivered at post offices and is sorted on the vehicle en route by postal personnel in the same manner as on rail postal cars.

Turn-Around Time Decreased in July

Kendall's monthly report also notes reduction in car detention

A definite reduction in the average turn-around time for serviceable railroad-owned and private freight cars during July as compared to previous months highlights the latest "National Transportation Situation" monthly report issued by Chairman W. C. Kendall of the Car Service Division, Association of American Railroads. According to the report, the average turn-around time in July was 13.9 days, as compared with 14.69 days in June, 18.3 days in May and 18.43 days in April.

Noting that "there is an apparent appreciation by all of the transportation problems involved . . . and a desire by shippers and receivers generally, and by carriers, to cooperate in every way to reduce the existing shortages to the greatest possible extent," Mr. Kendall also reported that the four Friday checks made in July showed a detention beyond free time of 17.24 per cent—the lowest detention percentage in the past 12 months—covering 60,827 cars held over the free time of 48 hours out of 352,903 cars in the hands of receivers when the checks were made.

Pointing out that the detention figure for July, 1945, was 14.58 per cent, Mr. Kendall added that "another encouraging item is the fact that comparing July of this year with the previous month of June when the percentage was 18.5 per cent, the detention trend has been downward materially, there being decreased detention in 10 districts and increased detention in only three. . . ."

Referring to the carloading situation, he said that total freight carloadings for the four weeks ended July 27 totaled 3,406,874 cars, including 668,000 cars of coal and 1,484,000 box cars of various commodities, the total shipments amounting to over 27,000 cars more than for the corresponding July, 1945, period.

Shortages in All Sections — "The heavy demand for cars accordingly is continuing in all sections of the country with shortages reported in all localities," he observed. "The percentage of cars awaiting repairs remains the same as a month ago—4.7. Efforts are being made to improve this situation. The shortage of material is to some extent slowing up the delivery of new cars on order."

Chairman Kendall also called attention to the letter addressed jointly on August 5 by J. J. Pelley, president of the A. A. R., and C. J. Goodyear, president of the Na-

(Continued on page 353)

Impossible to Divert More Cars for Grain

Colonel Johnson says equipment must be used to haul other products

Responding to appeals for the diversion of more box cars to the mid-western, western and northwestern corn and wheat areas, Colonel J. Monroe Johnson, director of the Office of Defense Transportation, declared on August 21 that any further diversion of box cars and other railroad equipment to expedite the movement of grain and grain products would have "disruptive effects on various parts of the nation's economy."

Pointing out that every effort is being made by the O. D. T. and the nation's railroads to move grain already harvested to elevators and terminal markets, Colonel Johnson said that "about 1,000 box cars per day" are now being routed from all parts of the country through western gateways. He warned that increased diversion would step up empty mileage, create delays in the movement of other freight and "eventually stagnate the movement of many materials and commodities vital to consumers, industry and agriculture."

Sharing the Shortage—The O. D. T. director further commented that an "equitable distribution" of the available box car supply compels a corresponding "equitable distribution" of the prevailing box car shortage, which, he said, increased over a recent two-week period from 9,000 to 14,000 cars. He emphasized again that shippers and receivers of freight "can help themselves best" by loading and unloading promptly, by loading and unloading on Saturdays and Sundays and by loading every car in compliance with the O. D. T.'s heavy loading orders.

Meanwhile, according to the O. D. T., recent weekly carloadings are "running well above war-time peaks." The agency again emphasized that the carloading total for the week ended July 20 exceeded 921,000, "the highest weekly loading since the week ended October 21, 1941." It added that during the five-week period ended August 10, carloadings averaged 905,000 weekly and that total traffic for the period was 130,000 higher than for the corresponding 1945 period, resulting in an average weekly rise of close to 28,000 carloadings.

The O. D. T. added that box car loadings are averaging "20,000 to 25,000 a week higher" than last year and that the total weekly loadings are nearing the 400,000 mark "despite the fact that the total supply of serviceable box cars has decreased 25,000 since August 1, 1943, and now numbers about 700,000." It also observed that shipments of less-than-carload freight are on the upgrade, the cumulative total for the first 31 weeks of 1946 amounting to 3,737,000, which, it said, is 490,000 and 530,000 higher than for the same 1945 and 1944 periods, respectively.

"To move more traffic than is now being moved, further improvement must be made in shippers' loading and unloading practices and in railroad handling of cars ,both to increase average tonnages and to reduce turn-around time," Colonel Johnson declared. He noted that a reduction to the June, 1941, peace-time turn-around average of 12.5 days would make it possible to increase carloadings "about 9 per cent." He said that with the present loadings "running over 900,000 weekly," a potential addition of 9 per cent in cars made available at shippers' platforms ready for loading "could make possible car loadings of 975,000 to 985,000 a week, providing the pace of traffic did not create a rise in the number of bad order cars."

The Need Is General—"The western grain growers are not alone in their need for rail transportation," the O. D. T. director concluded. "Manufacturers in the East, Mid-west and on the West coast need cars to move steel, lumber, other raw materials and finished products. Box cars and covered hopper cars are needed for the movement of cement in . . . New York, Pennsylvania, Illinois and Washington. Open top equipment is needed for the movement of coal, sand and gravel and covered hopper and box cars are in demand to move foundry sand used in making steel and iron castings and for silica sand used in the glass industry."

In addition to the foregoing requirements, Colonel Johnson explained (1) manufacturers of cans want box cars to supply the canneries with cans to preserve perishable crops; (2) Michigan salt mines want cars to send salt to western and mid-western meat packers and (3) cars are needed for the movement of phosphate rock from Florida and potash from New Mexico for refining and processing at northerly fertilizer plants.

Express Agency Shipments Hit New High

Railway Express Agency's latest traffic report for the first six months shows a total of 18,024,639 rail shipments handled during June, 1946, an increase of 1,604,080 shipments over the same month in 1945, or a nationwide percentage increase of 9.8. The June report also shows percentage increases in all of the Express Agency's 64 operating divisions ranging up to 197.4 per cent registered in the Hawaiian Islands express offices.

Rail shipments began rising in January of this year and continued their upward trend through the ensuing months. New monthly records were scored and added up to a grand total of 114,292,704 rail shipments for the first six months. This compares with 100,883,505 shipments handled during the like period last year.

New York City, which leads the nation in the number of express shipments handled, had a 6.9 per cent increase for June with 2,240,983 shipments and a cumulative total of 15,771,843 rail shipments during the first half of 1946.

To Investigate New Orleans Belt Switching Charges

Upon its own motion, Division 2 of the Interstate Commerce Commission has ordered an investigation of the rates and charges for switching services on freight interchanged between the New Orleans Public Belt and connecting carriers. The proceeding is docketed as No. 29599.

Delay Ex Parte 162 Hearing and Argument

Despite railroads' protest, commission orders two weeks' postponement

Further hearing and oral argument in the Ex Parte No. 148 and Ex Parte No. 162 proceedings, originally scheduled to be held at the Washington, D. C., offices of the Interstate Commerce Commission on September 4 and 9, respectively, have been postponed by an order made public August 21 by the commission's Division 2. The further hearing will now start at 9.30 a.m. on September 17 before Division 2, consisting of Commissioners Aitchison, Mahaffie, Splawn and Alldredge, while the entire commission will hear the oral argument now re-scheduled for September 23.

According to the order, the commission's action to cancel its previous order of July 31—which set September 4 and 9, respectively, as the dates for the further hearing and oral argument—was taken "upon consideration of motions and concurrences therein by the National Industrial Traffic League, the National Association of Railroad and Utilities Commissioners, the Southern Traffic League, and other bodies and individuals, seeking postponement of the hearing and oral argument in the . . . proceedings."

The commission further ordered the "several Class I petitioning railroads whose traffic data are shown . . . in the proceedings" to produce at the beginning of the September 17 hearing (1) an estimate for each line of traffic, revenues, expenses, net railway operating income, federal income tax "carrybacks," and net income, based upon the best available information and data, for the separate calendar years of 1946 and 1947—another request made by the N. A. R. U. C.—and (2) an estimate for each line of the financial effect of the so-called Crosser Act.

It also ordered that testimony produced at the September 17 hearing should be confined (1) to the data so required; (2) to developments relating to the traffic, revenue, expenses and fixed charges (including taxes) of the petitioners, supplementing evidence already adduced; (3) to matters, the presentation of which has been arranged or reserved during the previous hearings or as may be arranged by agreement, and (4) to rebuttal of previous testimony.

It requested that parties having common interests should arrange to consolidate their presentations of evidence and argument in order to avoid "needless duplication" or "culmination of evidence." The order further stated that the commission should receive on or before September 4 requests by counsel or parties for allotment of time for oral argument. It said that parties may submit memoranda in lieu of oral argument "at their option." At the same time, the commission ordered that parties desiring to submit briefs after the oral argument may do so on or before October 25 by serving and filing copies as provided by the commission's General Rules of Practice.

"In order to lighten the burden with re-

spect to the service of briefs and to lessen the expense of printing unduly large numbers of copies, the commission will undertake the compilation of a list upon whom briefs shall be served," Division 2 said in a notice accompanying its order. "This notice is intended to develop the information necessary for the compilation of such a service list. It is being mailed to all persons whose names have been entered of record as appearing for parties. Each counsel or party interested is requested to inform the commission on or before October 1 whether (1) he will file a brief; (2) he shall be served with copies of all briefs and (3) he shall be served only with briefs of such persons whom he may designate. In instances where two or more counsel appear for the same party, the replies should denote which of them shall be served with briefs." The commission said that failure to respond by October 1 will be considered as indicating that the particular counsel will not file a brief and that he does not desire to be served with briefs of other parties.

Replying to the petition filed by the National Association of Railroad and Utilities Commissioners, which, as reported in *Railway Age*, August 17, page 309, had asked the commission to postpone at least until December 15 the scheduled September 4 rebuttal hearings in the rate case, counsel for the railroads had declared that the petition is "without merit" and requested that it be denied in its entirety. The reply was signed by 21 attorneys representing the railroads.

The reply pointed out that the reasons advanced in support of the request for the postponement — i. e., better estimates of prospective traffic can be made at a later date; insufficient time has elapsed since the granting of the increases effective July 1 to determine their effect upon the revenue of the carriers; and the July 1 increases removed the emergency requiring expedited action by the commission—were stated as a basis for a motion presented at the opening of the Chicago hearing in the proceedings on July 22, at which time a request to cancel the hearing for at least 120 days was summarily denied.

"Furthermore," the reply noted, "the motion . . . was made on behalf of certain state commissions which are members of the association here petitioning. Certain of these grounds were also advanced in the petition of the Southern Traffic League, filed July 15, and in the informal request of the Secretary of Agriculture . . . both of which were also denied by the commission. These grounds which were deemed to be insufficient at that time certainly can have no greater merit now . . ."

Millions at Stake—Declaring that the petition seeks a delay of more than three months in a proceeding "in which time is of the essence," the railroads said that if the railroads are entitled to the increases which they seek, such a delay in disposing of their application would mean "the unrecoverable loss to them of hundreds of millions of dollars, and the injury resulting from such a loss would not be confined to the railroads."

The railroads commented that according to the conception of the public interest in transportation which underlies the provisions of the Interstate Commerce Act, the duty of the commission to permit the establishment and maintenance of adequate rates "is just as much in the public interest as is its duty to prevent the establishment and maintenance of excessive rates." It asserted that there has already been, "of necessity," a greater time lag between the imposition of the increased costs making necessary the request for increases in rates and the granting of such relief than is normal by reason of the fact that the wage increases granted in April, "which form a substantial part of these increases," were retroactive to January 1. It said that this condition "should not be further aggravated" on the basis of any such showing as is made in the petition.

"The assertion that 'without data before it concerning railroad traffic in the months of August, September, October and November, the commission will have no reliable basis upon which to forecast the future revenue pattern of the railroads,' is, in the face of the record already made in this proceeding, utterly without foundation," the railroad reply continued. "It is inherent in a general rate case that the rates prescribed will operate only with respect to the future and that the revenue results therefrom will in part be dependent upon the future level of traffic so that the commission is obliged to look into the future to some extent. Also, it should not be overlooked that the commission's ultimate objective is not to estimate the level of traffic for the future but rather the operating results of the carriers, and in that determination the level of expenses is of equal importance with the level of traffic.

No Gain from Delay—"It is entirely probable that three to four months from now there will be just as many uncertainties in the equation upon which an estimate of future operating results would have to be based as there are now, and as the necessity for the commission to look into the future would not have been obviated nothing would have been gained by the delay. If controlling weight were to be given such considerations as are advanced in support of this petition, few proceedings involving the prescription of rates for the future could ever be terminated."

The railroads observed that there is no substantial dispute as to what the July 1 increase amounted to—they noted that the I. C. C. stated that it would amount to 6½ per cent, a figure which was accepted by the carriers—and that if there were any dispute the percentage could be calculated from the operating results soon to be available for July and August.

"Of course," the reply said, "what it will amount to in dollars of revenue will be dependent upon the levels of traffic and expenses, but the unreasonableness of delaying on account of making estimates on these matters has already been discussed. Moreover, since the temporary increases granted by the commission . . . represented but a small part of the increase sought by the railroads, and now demonstrated in the record as required, the assertion that the granting of that temporary increase removed the necessity for expedition by the commission in reaching a final determination of the carriers' proposals is equivalent to a contention that such temporary increase gave the railroads all or substantially all the relief to which they are entitled, and there is nothing to support such a contention."

The railroads also requested denial of that part of the petition which called for 30 Class I roads to supply a forecast of net income for 1946 and 1947, including the estimated carry-back tax credits for those years.

A Gem of Consistency—"Not the least amazing feature of this petition is that while insisting that this proceeding has no emergency aspects and should be delayed in order to obtain the benefit of information as to operating results for later months than is now available," the railroads said, "it yet insists upon the importance of the carry-back provisions of the tax laws and suggests the possibility that the railroads' 1946 carry-backs might aggregate a billion dollars. The implications of the one line of argument are . . . that the experience of the next few months will show that the railroads are operating at a profit so substantial that further increases may be unnecessary, whereas the implications of the other line . . . are that the railroads will continue to operate with so little profit for the remainder of this year that they will be entitled to very substantial amounts of tax carry-backs.

"There are at least two good . . . reasons why showings of the sort requested are uncalled for. In the first place, it is only

Trying to Make Commies Out of Railroaders

The Scripps-Howard newspapers report that the Communist party has singled out the railroads as the next industry to receive its organizing attention. An article by Frederick Woltman in these papers says that the Communists have established a publication, entitled the "Railroad Workers Link," for the dissemination of the current Communist party program among railroad employees. This program includes political action by the employees along the C. I. O.-P. A. C. pattern, greater collaboration by the unions, and nationalization of the railroads.

In a message to railroad employees, W. Z. Foster, the head of the Communist party, advises them to follow the example of such "democracies" as the two Slavias (Czecho and Jugo) and break "monopoly's stranglehold on railroads." He did not go so far, however, as to dally the Slavic railroaders' standard of living before American railroad employees; or to tell them what happens to unionists in Communist "democracies" when they don't obey the orders of their local W. Z. Fosters.

The Washington News, Scripps-Howard paper which published the Woltman report, expressed the editorial opinion that the effort to convert railroaders into Commies would fail because "anyone smart enough to run a train has too much sense to get mixed up with the Commies."

as they relate to the carry-back of excess profits tax credits that the carry-back provisions of the tax laws involve the possibility of any substantial refunds to the railroads, and that feature expires at the end of this year. . . . It is a non-recurring item and would in no event be of any importance in determining the permissible level of railroad rates after 1946. In the second place, the extent to which the railroads, under the present temporary provisions of the tax laws, may be able to make up in part for the inadequacy of their earnings this year by obtaining refunds of portions of the taxes paid by them in prior years is of no relevancy whatsoever in this case, except as it may be necessary to show the extent of the distortion in the operating results of the carriers due to the inclusion of these accruals."

The reply also pointed out that the I. C. C. is "without authority so to regulate rates" as to throw upon the general taxpayers of the country the burden of bearing part of the cost of the rail transportation. It said that under the Interstate Commerce Act, the lowest rail rates to which shippers are entitled are those which are as low as are consistent with the furnishing of adequate and efficient rail transportation service and that the I. C. C. is under the mandatory duty of seeing that the railroads are not as the result of its administration of the act prevented from obtaining from all their traffic revenues sufficient to enable them to provide such service.

"The railroads . . . have undertaken . . . to guard against the misleading effect that might otherwise result from the fact that some of them are making monthly accruals in their accounts of estimated tax refunds that may be coming to them at the end of the year under the carry-back provisions of the revenue law, so that their monthly reports filed with the commission fail to that extent to reflect the actual results of their operations under the existing rates," the reply concluded. "They have sought to do that (1) by completely disregarding this matter of possible tax refunds in all estimates submitted by them of the operating results of the railroads as a whole in 1946 under various bases of rates, and (2) by showing the extent to which operating results already reported were affected by credits accrued in anticipation of possible tax refunds.

"That is the only showing with respect to the matter that can possibly be of even the remotest importance in this case. It is one thing to require a railroad to produce an estimate which it has already made and has used as the basis for an accounting entry, that is, merely to call upon it to disclose a fact with respect to its accounting; but it is quite a different thing to undertake to require a railroad to make and produce an estimate which it has not found it necessary to make and does not propose to use for any purpose. The commission, of course, is without authority to do that."

The request of the National Association of Railroad and Utilities Commissioners that the Ex Parte 162 proceedings be delayed has been supplemented by a petition of the National Industrial Traffic League for more time for the filing of briefs and a delay in the oral argument at least until after October 1.

Canadians Want More Railroads

Canada's two railway systems are beginning again to be troubled by a situation that beset them before the war, namely that Western members of Parliament are again asking for railroad construction in their areas and in the House they declare that if the Canadian Pacific cannot be forced to provide what might even be an uneconomic service, then the publicly owned railroad should do the job because any loss from operation could be absorbed by the taxpayers.

One case is that of a 37-mile branch line in Saskatchewan, or a gap of that distance between two parts of a line begun before the war by the Canadian Pacific. A member of Parliament from that province in the House at Ottawa last week said it looked as if the C. P. R. had no intention of finishing the line. He said that the C. P. R. had been given big land concessions in Western Canada, and he suggested to the federal government that it remind the railway it had responsibilities to the people.

Transport Minister Lionel Chevrier said he had no power to order the C. P. R. to build a branch line. He reminded the House that the C. P. R. was a private enterprise and if anyone wanted something from the C. P. R. he should send his mail to the company's address in Montreal. When another member charged the C. P. R. with invading Canadian National territory, even if the invasion was costly to the C. P. R., Mr. Chevrier reminded the House there was on the statute books the Canadian Pacific-Canadian National Act providing for cooperation and consultation between them, and that there actually was close cooperation between them, resulting in elimination of needless and costly competition.

1946 "Railway Accounting Rules" Due Soon

"Railway Accounting Rules" effective October 1, 1946, will be available sometime during the month of September, according to the Association of American Railroads. It will contain all mandatory and recommended accounting rules and standard forms, amended or supplemented in accordance with the approved recommendations of the standing committee of the Accounting Division. With the exception of the new Mandatory Passenger Rule 32 and Mandatory Passenger Form AD-10, effective June 1, the amended rules and forms are effective October 1.

One copy of the new edition will be furnished without charge to each member of the Accounting Division, and additional copies may be obtained from the division's office, Transportation building, Washington 6, D. C., the prices to member roads and their employees being 50 cents per copy when ordered in quantities of ten or more, and 75 cents each when less than ten are ordered. Prices to non-members are double the foregoing.

The division also has announced its intention to issue shortly a separate pamphlet covering Freight Accounting Rule 260, the so-called Code Numbers pamphlet. As before, this will include recommended abbreviations for carriers, states and provinces and the alphabetical list of carriers with their respective code numbers for use in interline accounting. The new edition which will be effective October 1, will incorporate also a numerical list, in code number sequence, for quicker identification of the carrier where only the code number is available. In addition to the limited distribution of single copies to members, copies of the pamphlet will be available from the division's office at five cents each, so long as the supply lasts.

Wallace Favors Missouri Barge Service Above Kansas City

Secretary of Commerce Wallace announced on August 16 that he has given "favorable consideration" to the recommendation of the advisory board of the Inland Waterways Corporation to extend that corporation's service above Kansas City, Mo., on the Missouri river at the "earliest date feasible."

According to the Department of Commerce, Secretary Wallace feels that barge service above Kansas City will be of "material benefit" to Missouri valley shippers. Acting upon the request of Secretary Wallace, Capt. A. C. Ingersoll, Jr., acting president of the I. W. C., on August 19 started a survey of traffic conditions above Kansas City. He conferred on that date with "interested parties" in Omaha, Neb.

Adjustment Board's Division One Being Reorganized

Reorganization of the carrier portion of Division One of the National Railway Adjustment Board is now in process and is expected to be completed by September 1. T. K. Faherty has already retired and has been succeeded by T. L. Green, general manager of the Indiana Harbor Belt. L. L. MacDonald has also left the board and has been replaced by George H. Dugan, assistant vice-president, Southern. Bruce Dwinell, general attorney of the Chicago, Rock Island & Pacific, on September 1 will succeed O. E. Swan, who will return to his former position as legal adviser to the board's examiners, while H. E. Hoaglund, assistant to the vice-president-labor relations, Chicago, Burlington & Quincy, will replace L. O. Murdock on that date. R. A. Knoff, the remaining carrier member, is also planning to leave the board on September 1, but his successor has not yet been chosen.

Among the labor members, R. J. Tillery, vice-president of the Brotherhood of Locomotive Firemen & Enginemen, has been appointed a member of the division, succeeding F. W. Lewis, who resigned on May 1 because of ill-health.

Equipment on Order

Class I railroads on August 1 had 49,078 new freight cars on order, according to the Association of American Railroads. On the same date last year, they had 33,050 on order. This year's August 1 total included 13,910 hopper, including 2,493, covered hoppers; 4,853 gondolas, 1,109 flat, 14,304 plain box, 6,590 automobile, 8,012 refrigerator and 300 miscellaneous freight cars.

The Class I roads also had 604 locomo-

tives on order on August 1, compared with 496 on the same day in 1945. The former total included 76 steam, six electric and 522 Diesel-electric locomotives, compared with 109 steam, two electric and 385 Diesel-electrics one year ago.

Class I railroads put 21,568 new freight cars in service in the first seven months of 1946, compared with 24,939 in the same period last year. Those installed this year included 8,506 hopper, including 2,133 covered hoppers; 3,013 gondolas, 415 refrigerator, 109 flat, 1,613 automobile box and 7,912 plain box freight cars. They also put 233 new locomotives in service in the first seven months, of which 66 were steam, and 167 were Diesel-electrics. New locomotives installed in the same period last year totaled 367, of which 56 were steam, and 311 were Diesel-electrics.

Standard Tests for Mineral-Wool Products

Commercial Standard CS-131-46 on testing and reporting of all forms of mineral-wool insulation, widely used by the transportation industry for the protection of cargoes in transit, is the latest development in the joint standardization program of the National Bureau of Standards and the Industrial Mineral Wool Institute. Adhesive strength, as an anti-vibration factor; moisture adsorption; density; and fire resistance, in addition to the basic feature of thermal conductivity, are among tested characteristics of importance to the railway industry.

The new standard permits industry-wide bases of judgment and specification in mineral-wool products. It covers testing and reporting on all types of industrial mineral-wool products. The tests described cover all material of fibrous form processed from molten rock, slag, or glass. The forms of products for which test methods are given are blanket, block, board, felt, granulated, industrial batt, insulating cement, loose, and pipe insulation of both blanket and molded forms. Uniform and detailed methods of testing and recording physical and chemical properties are given. The forms of industrial mineral wool are defined and formulas given for fixing the conclusive factor of each test so that standards may be made available for the judgment of characteristics and behavior by uniform tests of any type of industrial mineral wool.

Standard CS-131-46, is issued by the National Bureau of Standards of the Department of Commerce, and contains the names of scores of acceptors throughout the mineral-wool industry. Copies of the standard are available for distribution and can be secured from the Industrial Mineral Wool Institute, 441 Lexington Avenue, New York 17, New York.

Complaint Against Trustees to Be Heard September 24

The Interstate Commerce Commission has set September 24 as the hearing date on the recent complaint of the Alleghany Corporation which, as noted in *Railway Age*, July 20, page 107, has asked the commission to enter upon an investigation to determine whether Guy A. Thompson, trustee of the Missouri Pacific, and Frank A. Thompson, trustee of the St. Louis-San Francisco, "have violated or are violating" section 5 of the Interstate Commerce Act which relates to combinations and consolidations of carriers.

The hearing will be held at the commission's Washington, D. C., offices before Assistant Director C. E. Bowles of the Bureau of Finance.

Emergency Boards and Wage Negotiations

An emergency board appointed by President Truman to investigate disputes involving the Denver & Rio Grande Western and the Brotherhood of Railroad Trainmen has submitted its report, covering some 33 grievance cases normally within the jurisdiction of the National Railroad Adjustment Board but not referred to it because of "dissatisfaction and unrest" alleged to exist among affected employees as a result of the delays incident to proceedings before that board's First Division.

Observing that "we have construed it to be our duty to inquire into the facts and conditions constituting this emergency, to report thereon, and to make recommendations which we hope will settle these differences between the parties and avert the catastrophic consequences of a stoppage of work on this important link in the transportation network of this country," the board considered each claim in turn and recommended denial of 23 and payment of the others in whole or in part.

Mediation proceedings under National Mediation Board auspices have been under way in the past few days in connection with negotiations intended to reconcile the general wage increases with the special situations applying to many short line roads, and it is understood that a number of agreements have been arrived at where operating employees are concerned. Other disputes to which the board's attention has been directed include threatened strikes of trainmen on the Southern Pacific's western lines and of employees of the Long Island represented by District 50 of the United Mine Workers. As a result of other negotiations, a strike of trainmen and engineers of the Mississippi Central has been called off after having been in effect since mid-July.

Long Island Strike Threat

The federal government may seize and operate the Long Island in an attempt to prevent the strike called for early Friday morning, August 23, by District 50 of John L. Lewis' United Mine Workers', A. F. of L., it was indicated as this issue went to press.

District 50, representing 900 trainmen and ticket collectors on the Long Island, has refused to accept the road's offer of the 18½ cents an hour wage increase, with a moratorium of one year on changes in working rules, which was accepted by 1,400,000 members of other organizations in last May's settlement of the national railroad strike.

"The union is demanding not only wage increases, but also more than 100 changes in working rules," E. L. Hofman, superintendent of the road, said. "A preliminary survey of the cost of only 35 of the more far-reaching changes shows that an increase of over 100 per cent in the total wages of the trainmen and ticket collectors would result and that over $3,000,000 a year would be added to operating costs."

Many of the union's proposals would increase the difficulties of operation and result in inconvenience to passengers, the superintendent added, such as one proposed rule which would require the railroad to use a different crew to operate a train out of a station, than the crew which brings the empty cars into the station. At a point like Jamaica, where 650 trains enter and leave the station daily with only a few minutes headway during rush hours, the time consumed in changing crews would make it impossible to operate the service without great delay.

The possibility of federal seizure arose as Ross Foran, mediator assigned to the dispute by the National Mediation Board, continued his consultations with both the management and the railroad division of District 50, but made no progress in an effort to affect a postponement of the strike deadline.

The union announced in Newark, N. J., that it had moved up the strike deadline from 5:00 a. m. on August 23, to 12:01 a. m., creating the possibility that many commuters may be stranded in the city if they do not catch trains before midnight.

Mr. Foran refused to speculate on the form of governmental action likely to occur if District 50, as it has threatened, refuses to abide by any of the "cooling off" provisions of the Railway Labor Act.

A spokesman for the railroad said that any wage settlement other than that of 18½ cents would be "upsetting the national picture," even though District 50 should agree to a postponement and let the dispute come to arbitration or before a presidential fact-finding panel. The railroad has refused to make any other settlement voluntarily and the road spokesman said he did not see how a new panel could make a different settlement without setting off a new wave of demands by the brotherhoods on the main lines that were affected by the national settlement.

If the strike is called, the Long Island has promised it will operate trains for "a maximum amount of service with a minimum amount of inconvenience." Should members of the standard railway labor organizations walk out in a sympathy movement, the effects of the strike will be aggravated, but the Long Island will operate as many trains as possible as crews of qualified supervisory employees become available.

Water Carriers Offer Plan to "Relieve" Car Shortage

Stating its views in a letter addressed to John R. Steelman, director of the Office of War Mobilization and Reconversion, the National Federation of American Shipping, assertedly representing 95 per cent of all American shipowners, last week urged the government speedily to establish what it called compensatory freight rates for domestic shipping in order that "hundreds of merchant ships can be utilized to relieve a national transportation shortage." The re-

quest was described as an alternative to an Office of Defense Transportation proposal to finance the construction of 50,000 freight cars, recently under consideration.

"According to a release issued by O. D. T. . . . it appears that the government is considering a plan for the construction of 50,000 additional freight cars at a reported cost of $200,000,000," the letter said. "Construction of these additional freight cars is being urged on the ground that our domestic transportation facilities are inadequate to meet the reconversion program and that a serious shortage of such facilities is indicated during the peak load of the fall season. In this connection, we direct your attention to the fact that American ships are being tied up daily for lack of cargoes and that more than 1,500 vessels already have been laid up."

The letter pointed out that before the war more than 450 American ships were engaged in coastwise and intercoastal trade, but noted that at the present time only 75 ships are being operated in these services.

"The principal reason for this situation is found in the fact that present coastwise and intercoastal rates are non-compensatory," it added. "We suggest that it does not make good sense for this government to spend money for freight cars to take care of peak loads of traffic when much of such traffic could be handled readily by available ships, provided that water-borne rates were adjusted to a compensatory basis."

The letter further observed that the utilization of existing shipping facilities in coastwise and intercoastal trades would (1) afford employment for seamen and American crews; (2) "keep up" the American merchant marine and (3) further the present government stabilization "policy" of curtailment of public expenditures.

"In the long run, it will be more economical to utilize excess ships at compensatory rates than to have the government provide new freight cars to handle peak loads of traffic," the water carriers concluded. "We respectfully suggest that before any government action is taken on the O. D. T. plan . . . careful consideration be given to the desirability of making possible the employment of existing shipping facilities through the establishment of compensatory freight rates. We are confident that a thorough study of this matter will reveal that a very substantial proportion of the traffic which would be serviced by additional freight cars could be handled by existing shipping facilities."

Rationed Commodities Excepted from Heavy Loading Rule

The Office of Defense Transportation announced on August 15 that commodities allocated or limited by government regulations, in addition to certain shipments of sugar, are exempt from the carload freight requirements of General Order ODT 18A, Revised. The action, taken in Amendment 1 to the order, became effective August 15.

The O. D. T. said the amendment exempts rail carload freight consisting of any commodity or commodities allocated or limited by regulation of any government agency when "the limitation is such as to preclude individual shipments sufficient to meet the loading requirements of the order." The exemption also is extended to other carload freight when loaded in the same car with a carload shipment of an allocated or limited commodity.

"The exemption on limited commodities, however, applies only if the shipper has first attempted in good faith to combine shipments of his own or to consolidate his shipments with those of another shipper to make up a full carload going in the same general direction," the O. D. T. pointed out. "The exemption on non-bulk carloads of sugar applies only to cars with a marked capacity of over 100,000 lb. and is subject to the following requirements: If the marked capacity of the car in which the sugar is loaded is 100,000 lb. or more, the quantity loaded must not amount to not less than 100,000 lb. and if the marked capacity is less than 100,000 lb., the quantity loaded must amount to not less than the marked capacity of the car."

The O. D. T. added that no special permits for the shipment of any quantity of sugar less than that specified will be issued unless the shipper certifies in his application that he does not have a sugar ration sufficient to comply with the order's requirements. In order to obtain a permit, the shipper must also first attempt to avail himself of the stop-off and consolidation privileges of the order.

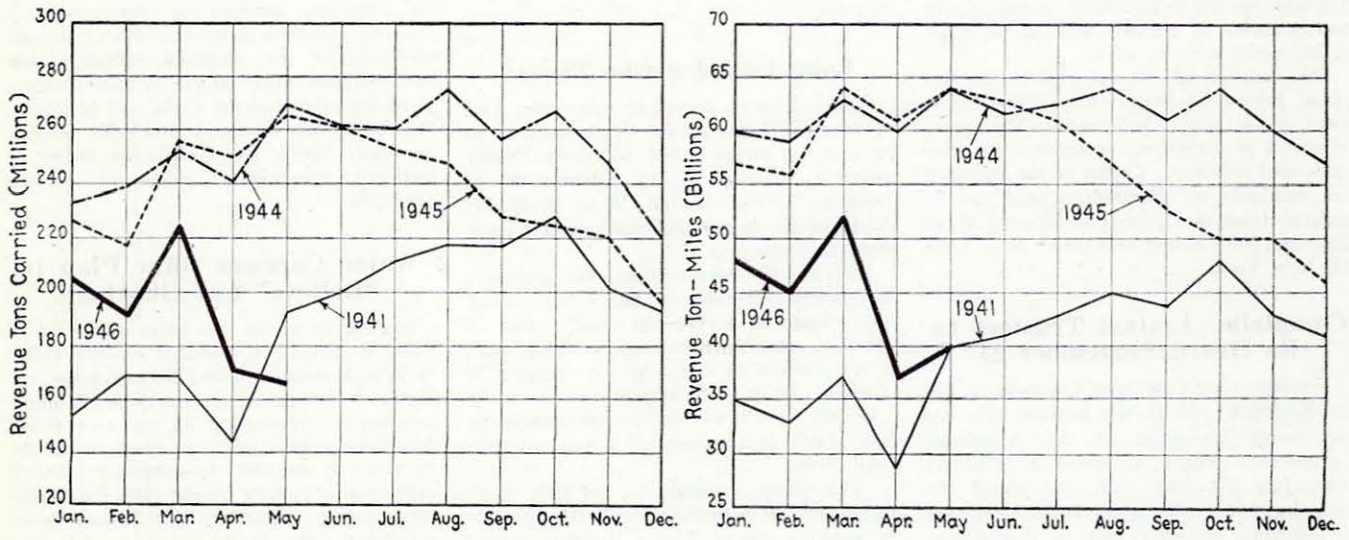
On August 21, the O. D. T. ordered shipments of new Irish potatoes to be used in making starch, alcohol or animal food to be excluded from the limited carload freight exemption accorded shipments of potatoes to be used for food or seed. The action was taken in General Permit ODT 18A, Revised-17, which supersedes General Permit ODT 18A, Revised-5. Under the same permit—Revised-17—the O. D. T. also extended its previous limited exemption on new Irish potatoes to shipments from Wisconsin.

On the same day, the O. D. T. defined carload freight loading requirements for seven types of commodities. This action was taken in Special Direction ODT 18A-1, Amendment 5, and became effective August 22. Under the special direction, shippers of the commodities involved may either ship in compliance with General Order ODT 18A, Revised, which prohibits the shipment of freight at carload rates unless the quantity shipped equals or exceeds the minimum loading requirements of the order, or they may ship in accordance with the limitations defined in the amended special directions.

The action was taken, according to the O. D. T., to obtain maximum loading of the commodities concerned while at the same time making an allowance for shipping or packaging limitations or peculiraities. The commodities concerned include bolts, nuts, rivets, screws, washers and nails, roofing tile, waste paper in bales, alcoholic liquor, petroleum and petroleum products, sisal in bales and burlap in bales.

Freight Car Loadings

Loadings of revenue freight for the week ended August 17 totaled 887,570 cars, the Association of American Railroads announced on August 22. This was a decrease of 11,514 cars, or 1.3 per cent, below the preceding week, an increase of 234,738 cars, or 36 per cent, above the corresponding week last year (which included V-J Day), and an increase of 947 cars, or 0.1 per cent, above the comparable 1944 week.



Revenue Tons and Revenue Ton-Miles—1946 Compared with 1941, 1944 and 1945

Loading of revenue freight for the week ended August 10 totaled 889,084 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, August 10 District	1946	1945	1944
Eastern	168,685	163,888	160,693
Allegheny	194,234	190,393	196,740
Pocahontas	65,859	53,597	58,143
Southern	127,895	118,985	121,370
Northwestern	138,332	135,289	139,812
Central Western	138,776	138,089	142,524
Southwestern	65,303	69,761	75,899
Total Western Districts	342,411	343,139	358,235
Total All Roads	899,084	870,002	895,181
Commodities:			
Grain and grain products	53,862	63,494	51,206
Livestock	16,209	14,926	15,967
Coal	185,661	169,387	178,982
Coke	14,032	14,028	14,200
Forest products	49,657	46,358	50,140
Ore	73,575	72,845	80,426
Merchandise l.c.l.	123,638	106,832	106,605
Miscellaneous	382,450	382,132	397,655
August 10	899,084	870,002	895,181
August 3	898,395	863,910	889,594
July 27	910,513	886,430	989,490
July 20	921,496	882,648	902,092
July 13	895,080	883,543	903,901
Cumulative total, 32 weeks	24,220,442	26,391,742	26,529,806

In Canada.—Car loadings for the week ended August 10 totaled 68,689 cars as compared with 70,581 cars for the previous week and 68,628 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

Totals for Canada:	Revenue Cars Loaded	Total Cars Rec'd from Connections
August 10, 1946	68,689	36,095
August 11, 1945	68,628	33,679
Cumulative Totals for Canada:		
August 10, 1946	2,140,881	1,085,541
August 11, 1945	2,192,335	1,168,652

Commissioner Claude R. Porter Dies in 75th Year

Interstate Commerce Commissioner Claude R. Porter died in Washington, D. C., August 17, following a cerebral hemorrhage suffered two days earlier. He was 74 years old and had been a member of the commission since January 28, 1928. Of the present membership only Commissioner Aitchison has served longer.

Commissioner Porter was born in Moulton, Iowa, July 8, 1872. After finishing high school, he attended Parsons college at Fairfield, Iowa, for one year and St. Louis Law School for one year. He was admitted to the Iowa bar in 1893 and began practice at Centerville in that state. During the Spanish-American War he was a sergeant-major in the 50th Iowa infantry, meanwhile having been elected (before he was 24 years old) a member of the Iowa House of Representatives, where he served from 1896 to 1900.

After four years in the Iowa Senate (1900 to 1904) and a two-year term as country attorney, Mr. Porter aspired to higher political office. He already had been an unsuccessful candidate on the Democratic ticket for Iowa secretary of state (in 1898), and he was equally unsuccessful as Democratic candidate for governor in 1906, 1910 and 1918, and for United States Senator in 1908, 1909, 1911, 1920 and 1926. Meanwhile, in 1914, he was appointed United States attorney for the southern district of Iowa, which position he held until, in 1918, he was named special United States assistant attorney general to direct the prosecution of "Big Bill" Haywood and other I. W. W. leaders accused of subversive practices during World War I. He soon became assistant attorney general in charge of criminal business.

In 1919, resigning his Department of Justice position, Mr. Porter became chief counsel of the Federal Trade Commission. Fifteen months later he was named special counsel to the commission, which position he held until 1924, when he resigned and returned to Iowa, resuming the practice of law at Des Moines. He became a member of the Iowa State Board of Education, and held that post in 1928 when President Coolidge appointed him to the Interstate Commerce Commission to fill the vacancy left by the resignation of Commissioner Hall. He was reappointed upon expiration of that term at end of the year, and the nomination for the seven-year term was confirmed by the Senate in December,

Harris & Ewing

Claude R. Porter

1928. Having served as chairman of the commission in 1932, he was reappointed by President Roosevelt in 1936 and again in 1942. His term would have expired December 31, 1949. At the time of his death he was chairman of the commission's Division 4, to which financial matters are assigned.

With the exception of Commissioner Eastman, who was at the time of his death more or less inactive as a commissioner because of his responsibilities as director of the Office of Defense Transportation, Commissioner Porter was the first member of the commission to die in office since 1913, when the death of Commissioner Marble occurred. As a mark of respect the commission closed its offices at 1 p. m. on August 19, having announced the death of its "beloved and respected colleague" with the following tribute:

"Commissioner Porter's fine personal qualities, his industry and professional skill, his integrity, forthrightness and fair-mindedness, had won the affection and esteem of the members of the commission and its staff to a high degree. His sudden death, after more than 18 years' devoted service, is a great loss not only to the commission, but to the country."

Car Service Orders

Amendment 2 to General Order ODT 1, Revised, which became effective A gust 21 and superseded Amendment 1, provides for exemption from that order's requirements of (1) a car loaded to its full visible capacity; (2) a car used as a "peddler," "pickup," or "way" car; (3) a car used as a "trap" or "ferry" car where the use of the car is necessary to relieve a carrier's freighthouse or transfer facilities because of inability to obtain other means of transportation for merchandise; (4) a car containing explosives or other dangerous articles; and (5) a car forwarded on a scheduled sailing date as a part of an established regularly scheduled merchandise car line, when during the month preceding the month in which such car is forwarded, the merchandise handled by such car line averaged not less than 20,000 lb. per car.

Amendment No. 1 to the Interstate Commerce Commission's revised Service Order 105, which prohibits backhauling company material, adds a provision for the issuance of special or general permits by the director of the I. C. C.'s Bureau of Service. The amendment was issued August 16. Service Order No. 572, which prohibited Kansas City railroads from accepting shipments consigned to the Midland Warehouse at Kansas City, Mo., was vacated, effective August 20.

Amendment No. 2 to Fourth Revised Service Order No. 104 extends the expiration date of the order to February 21, 1947, unless otherwise modified. The order, which was scheduled to expire August 21, concerns the substitution of refrigerator cars for box cars ordered for westbound transcontinental shipments.

King's Order No. 3, issued under the authority of O. D. T. Service Order No. 562, authorizes rerouting of carload freight traffic normally interchanged by car ferry between Detroit, Mich., and Windsor, Ont., which can not be handled as routed due to strike conditions. The order became effective August 15 and expires August 29. King's Order No. 4, effective August 16 and expiring August 30, authorizes rerouting of traffic because of flood conditions in Illinois and Missouri; Order No. 5, effective August 16 through August 28, authorizes the Bessemer & Lake Erie to reroute carload ore traffic originating at Conneaut, Ohio, routed via the Union to McKeesport or Donora, Pa., and which cannot be handled as routed due to congestion; and Order No. 6 authorized, effective August 17, disregard of shipper's routing by railroads when ferry service on Lake Michigan is unavailable due to labor conditions.

I. C. C. Service Order No. 564-A, effective August 20, vacates Service Order No. 546 pertaining to the rerouting of traffic due to a strike on the Mississippi Central.

Amendment No. 2 to Service Order No. 523, effective August 20, supersedes Amendment No. 1 and modifies the order's provisions for the protection of certain through

routes and joint rates by receivers of the Pittsburg, Shawmut & Northern.

Amendment No. 2 to Service Order No. 454, pertaining to preference for export wheat, corn, meat and other essential foods, exempts the Camas Prairie and the Nezperce Railroad from the provisions of the order only insofar as is necessary to permit those roads to furnish or supply five empty cars for both railroads in any one day for the loading of peas. The amendment will become effective August 26 and will expire, unless otherwise modified, on September 10.

Amendment No. 3 to Service Order No. 454 enlarges the provisions of that order to the extent that after the receipt of notice from the O. D. T. that the Department of Agriculture has certified to it that a grain elevator contains grain owned, or contracted for, by the United States which the department has ordered shipped to a port for export for the relief program, and that a designated number of cars per day from such elevator is necessary to meet such requirements, the carriers shall not supply cars for the shipment from such elevator of any other grain until such designated number of cars has been supplied. This amendment, which becomes effective August 28, applies only at Sioux City, Ia., and Council Bluffs, and to stations in Colorado, Texas, Kansas, Missouri, Nebraska and Oklahoma.

July Ton-Miles

The volume of freight traffic handled by Class I railroads in July amounted to 52 billion ton-miles, according to a preliminary estimate by the Association of American Railroads. The decrease under July, 1945, was 14.4 per cent.

Revenue ton-miles of service performed by Class I roads in the first seven months of 1946 were approximately 23.5 per cent under 1945 and 25 per cent less than the corresponding period two years ago.

	1946	1945	Per cent decrease
First 5 months	222,575,659,000	302,161,133,000	26.3
June	[a]50,000,000,000	62,574,789,000	20.1
July	[b]52,000,000,000	60,720,580,000	14.4
Total 7 months	324,600,000,000	425,456,502,000	23.4

[a] Revised estimate.
[b] Preliminary estimate.

The table summarizes revenue ton-miles for the first seven months of 1946 and 1945:

July Operating Revenues 16 Per Cent under 1945

From preliminary reports of 86 Class I railroads representing 80.2 per cent of operating revenues, the Association of American Railroads has estimated that the July gross amounted to $536,783,817, a decrease of 16 per cent below the $638,758,438 reported for the same 1945 month. Estimated July freight revenues were $408,134,680, compared with $469,481,701, a decrease of 13.1 per cent, while estimated passenger revenues were $90,259,851, compared with $122,613,756, a decrease of 26.4 per cent.

Lake Michigan Ferries Hit By Seaman's Strike

Railway car-ferry operations on the Great Lakes and rail movement of coal to the lake ports for transshipment via water were seriously hampered this week by a strike of employees of some of the lake carriers, members of the National Maritime Union (C. I. O.). Effective August 15, the strike resulted in immediate disruption of car ferry service on Lake Michigan and on the St. Clair river at Detroit, Mich. However, on August 16, the Lake Michigan operations were resumed. The following day seamen employed by the Grand Trunk Western in its car-ferry operation between Muskegon, Mich., and Milwaukee, Wis., again walked out and had not returned to work on August 21. The G. T. W. ferry is also used by the Pennsylvania between Muskegon and Milwaukee.

The Ann Arbor ferries between Frankfort, Mich., and Manitowoc, Wis., Kewaunee, Marinette and Manistique, Mich., and the Pere Marquette ferries between Ludington, Mich., and Milwaukee, Manitowoc and Kewaunee all became strike-bound for the second time on August 18, and to August 21, had not resumed operation.

On the St. Clair river, the Wabash and Pere Marquette car ferries between Detroit and Windsor, Ont., ceased operation on August 15 and had not returned to service to August 21. Detour arrangements via the Michigan Central's Detroit tunnel were being used by these roads. The Canadian National, which also operates car ferries in this service, has so far been unaffected by this strike as its employees are under the jurisdiction of Canadian authorities. The Pere Marquette also detoured some freight via the Grand Trunk's tunnel between Port Huron, Mich., and Sarnia, Ont., for movement over the P. M.'s Sarnia-Blenheim, Ont.-branch.

On Lake Erie, the New York Central reports that its coal dumpings at Toledo, Ohio, have been effected and describes the port as under an embargo and permit system. However, up to August 21, there had been no formal railroad embargoes placed except at South Chicago, Ill., on August 15, which was cancelled on August 19, and Ashtabula, Ohio, on August 19 and 20. Movements of ore from Ashtabula were nearly normal up to August 21. The Pennsylvania reported that up to that date its movement of coal via Sandusky, Ohio, was normal. However, on August 19, this road issued an embargo against all traffic routed via the Penn-Ontario car ferry between Ashtabula, Ohio, and Port Burwell, Ont. This embargo was followed by a similar one affecting southbound movements via this route, placed by the Canadian Pacific the following day.

According to responsible railway officers, no dispute exists between the railways and the National Maritime Union and no demands have been served on the roads. Apparently this view is also held by the National Mediation Board, as Frank P. Douglass, its chairman, sent the following telegram to Philip Murray, president of the C. I. O., on August 19:

"Strike of marine employees on the Great Lakes and St. Claire river in progress for the last week has resulted in employees of the Pere Marquette, Wabash, Ann Arbor and Grand Trunk Western railroads being called out by the National Maritime Union (C. I. O.). The Maritime Union now represents and has contracts for certain marine employees with the above four railways which the organization has an obligation to protect, until changed in accordance with the provisions of the Railway Labor Act, which covers marine employees on boats operated by railroad companies. We are informed that no notice has been served by the employees as required by Section 6 of the act for changes in working conditions. If any dispute exists, it should be progressed under provisions of the act, which provides for peaceful and orderly methods and which must be utilized without stoppage of work. The Mediation Board respectfully urges you immediately to cancel the strike on the above railroad-operated boats and that the National Maritime Union be directed to protect the provisions of its existing agreements."

Argument in January in Georgia Rate Case

The Traffic Executive Association-Southern Territory has never prevented or tried to prevent the Illinois Central System from taking action with respect to rates in the manner in which it desired, Joseph L. Sheppard, assistant vice-president, traffic department, of that railroad, testified on August 14, when he returned to the stand in New York as a witness in hearings being held before United States Supreme Court Special Master Lloyd K. Garrison in the state of Georgia's rate suit against the southern and eastern railroads.

Since the organization of the Traffic Executive Association-Southern Territory in 1938 up to the present time, Mr. Sheppard said, twelve Illinois Central System's rate proposals were submitted to the Association. In eight instances, he said, the railroad proceeded with the publication of the rates as proposed and the other four were not carried to final publication for several reasons, one of which was the withdrawal of the request by the shipper.

"The disposition of the proposals was the independent action of the Illinois Central," Mr. Sheppard stated. "In no instance was the Illinois Central deterred or prevented from publication by any action of the Association."

Correspondence relating to what are termed "classification exceptions ratings," and introduced by Georgia in its suit, had for its purpose the clarification and simplification of the published tariffs so as to facilitate compliance with orders of the Interstate Commerce Commission, Joseph G. Kerr, chairman of the Southern Freight Association, testified on August 20, on his return to the stand.

In this correspondence or otherwise, Mr. Kerr said, the southern railroads were not endeavoring to circumvent or circumscribe any orders or reports of the I. C. C. or to defeat or in any way interfere with any such orders or purposes of the Commission. Moreover, he added, the tariff changes proposed in the letters did not in any way

change or affect the freight charges paid by shippers.

What was proposed in the correspondence, Mr. Kerr stated, was so to clarify the tariffs that what in fact are commodity rates would be shown as such. "The only effect the proposed change could have had on any future proceeding," he continued, "is that all confusion and doubt as to the nature of exceptions ratings would have been eliminated, and the I. C. C. would be enabled to make it certain whether any order in any case is intended by the Commission to be applied to that kind or group of commodity rates."

Pointing out that there was no connection whatever between the correspondence and the I. C. C.'s Southern class rate investigation and report of May 15, 1945, Mr. Kerr said: "The two investigation orders were not issued by the Commission until July 29, 1939, and as issued neither of the orders included in the investigation any questions connected with exceptions ratings or column or commodity rates. The investigation was exclusively in respect to class rates proper."

Mr. Garrison set January 13, 1947, as the date for the beginning of final argument in the case, to be held in Washington, D. C. Briefs are to be in the master's hands between January 2 and January 6, 1947.

Pacific Railway Club to Meet in San Francisco

The Pacific Railway Club will hold a joint meeting with the San Francisco section of the American Society of Mechanical Engineers at the Engineers Club, San Francisco, on September 26. C. D. Allen, manager, transportation sales and service of the Baldwin Locomotive Works, will speak on "Current and Proposed Locomotives."

Representation of Employees

As the result of a recent election which has been certified by the National Mediation Board, the Brotherhood of Locomotive Engineers, by virtue of a 113 to 81 victory over the Brotherhood of Locomotive Firemen and Enginemen, has retained its right to represent locomotive engineers employed by the Richmond, Fredericksburg & Potomac.

In another election, the Brotherhood of Railroad Trainmen defeated the Switchmen's Union of North America, 37 to 35, and thereby retained its right to represent yardmasters and yardmen, including foremen and helpers, employed by the Akron, Canton & Youngstown.

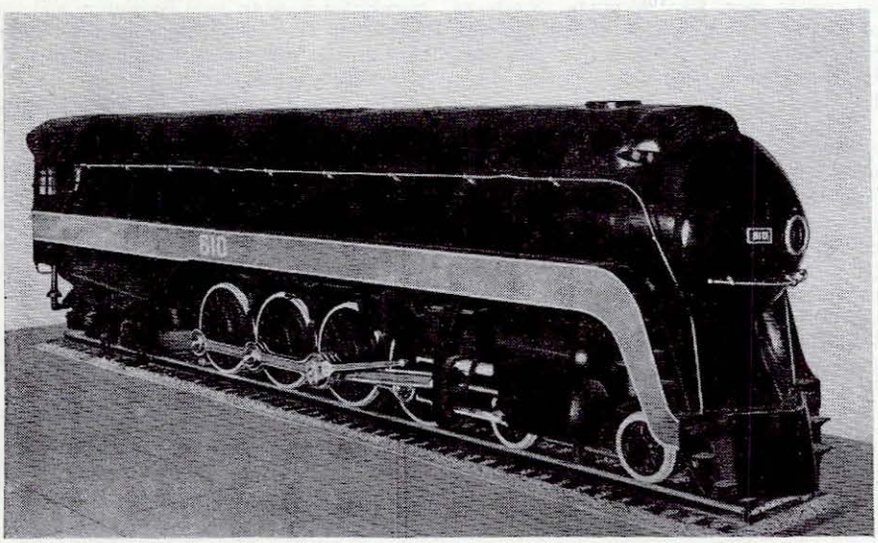
Timken Prepares Extensive Russian Exhibit

The first public presentation of an exhibit dramatizing the application of Timken bearings in industry was made on August 16 to representatives of American and Russian industry in the workrooms of Messmore & Damon, Inc., New York, its builders. The exhibit, prepared at the invitation of the U. S. R. R., will form a part of an International Industrial Exposition to be held at Moscow late this year.

The exhibit occupies a space of something more than 25 ft. by 30 ft. and consists of a series of murals illustrating the use of air, water, and land transportation, featuring planes, trucks, passenger cars, ships, and railroad equipment; and other industries in which roller bearings play an important part — construction, drilling, farming, mining, quarrying, steel, and machine tools. These murals are associated with cases in which are displayed the Timken roller-bearings designed for application to the various types of equipment suggested by them.

The center of interest in the exhibit is a one-quarter size two-ton working model of a recently built steam locomotive which occupies the floor in the center of the exhibit space. The boiler and cab of this model, all of the running gear of which is in operation, are separate from the frames and running gear and are periodically raised and lowered mechanically so that the operation of the running gear and the Timken bearings, the housings of which are cut away, may be observed in motion. All the axle journals and crank-pin bearings of the locomotive are roller-bearing equipped. A complete set of full-size bearings for the locomotive are displayed alongside the model.

Before the exhibit is forwarded to Russia the locomotive model will be a part of the Allied Railway Supply Association exhibit at the Hotel Sherman, Chicago, during the meetings of the Coordinated Mechanical Associations September 4 to 6, inclusive.



Part of a Timken roller-bearing display which will be a part of the International Industrial Exposition to be held at Moscow late this year

Turn-Around Time Decreased in July

(*Continued from page 345*)

tional Association of Shippers Advisory Boards, to users of rail transportation in which they appealed for the unloading of freight cars on Saturdays and Sundays. The Pelley-Goodyear communication was reported in *Railway Age,* August 10, page 230.

With reference to equipment, Mr. Kendall said that "while emphasis remains on the grain movement, box car requirements for industry generally continue to increase steadily," adding that the average weekly loadings in July totaled 384,574 cars, as compared with 357,761 cars in the corresponding 1945 period.

Predicting near record or record shipments of grain, corn and other agricultural products, he pointed out that "in an effort to keep pace with these record demands, involving considerably longer hauls, the C. S. D. has, of necessity, set up and is maintaining a constant proportionate return flow of empty box cars to these western sections in critical need. Unless this is done, the railroads in those areas will be unable to meet the vital requirements of our own people and the commitments to other nations who are looking for aid in their hour of need."

"There are approximately 700,000 serviceable box cars available," Mr. Kendall continued. "Loadings have averaged in recent weeks better than 385,000 cars, exceeding 390,000 cars in two of these weeks. Every effort is being made to keep as many cars off the repair tracks as possible and the acquisition of new equipment is being actively progressed. The latter, however, is but a future solution. The problem today needs today's attention. As indicated, the box-car requirements of every region of the nation are on the up-grade. Shortages are spread, proportionately, reflecting a most equitable distribution of available cars among all sections.

Calls for Sacrifices—"There is but one immediate remedy and that is for all concerned wherever possible to load, unload and move every box car within 24 hours. It can be done, admittedly, at great sacrifice but only to the extent to which it will be done will the present situation be relieved."

Mr. Kendall's report on other types of closed cars revealed that (1) ventilated box cars are now back in general service, the loading of watermelons having been practically completed resulting in the restrictions being lifted on these types of cars; (2) total stock car loadings are 55,000 cars ahead of 1945, the increase in requirements being expected to extend "well into the next two months," in spite of help being given the western roads by other sec-

tions to cope with the "tight" situation; and (3) output of automobiles is showing a steady increase over preceding weeks but production still lags due to material shortages, thereby resulting in no immediate drain on the car supply.

With respect to the supply of coal cars, the C. S. D. chairman, noting the sharp increase in loadings, particularly since the end of the coal strike, asserted that "from reports received of car loadings of coal, coke, ore, sand, stone and gravel during the month of July indicating an increase of at least 100,000 carloads as compared with July, 1945, it is apparent that the national forecast of Shippers Advisory Boards for the third quarter, estimating a 200,000 increase in July, August and September over last year, may prove to be conservative."

"Certainly there is no indication of any let-up in the demands for open-top cars to load these bulk commodities. The seriousness of this situation has been recognized by the Interstate Commerce Commission in the issuance of a service order inaugurating high demurrage rates on gondola, hopper, and covered hopper cars. . . . In these circumstances, it is more necessary than ever to appeal for continued shipper and receiver cooperation in the expeditious release of all open-top equipment. It is likewise essential that special efforts be made to handle coal cars in accordance with the rules providing for an orderly return of these cars to or in the direction of the owning roads, and shippers can be particularly helpful by loading cars in accordance with these principles."

Open Cars in Demand—Mr. Kendall said that the gondola supply situation was "very tight," adding that in some areas the demand was exceeding the supply. He reported that within the past 30 days there has been a "general tightening up" in the flat car supply and that "at present there is no surplus in any part of the country." Covered hoppers also are in heavy demand, although he said the situation is improving steadily with the delivery of new equipment, including 474 during July. As of August 1, 2,827 covered hoppers were on order. The C. S. D. chairman further predicted that the refrigerator car supply will continue to be "tight" throughout the fall and winter.

Referring to less-than-carload merchandise, he said that the loadings per week during July have averaged approximately 16,000 cars in excess of the loadings during the corresponding 1945 period. He attributed the continued increase to industrial production of commodities which were restricted during the war and are now reaching consumer outlets in larger quantities.

"Generally speaking," he remarked, "due to some improved conditions, more especially in manpower, cars awaiting handling at freight houses throughout the country have shown a decrease compared with the reports in July. Certain operations, which at that time had an excess supply on hand equal to one and one-half and two days' operation, now approximate a normal condition."

According to the report, l.c.l. shipments during the first eight months of 1946 were 15.1 per cent greater than prevailed during the corresponding 1945 period. It also was pointed out that railroad managements continue to give l.c.l. freight the "closest possible attention."

That phase of the report dealing with the export situation disclosed that the movement of export freight through United States ports for the month of July was 54 per cent below that of July, 1945, the number of cars unloaded totalling 83,676, as compared with 183,451 in the same month last year. As of August 1, total cars of export freight on hand at the ports was 9,002, with an average daily unloading of 2,263 or a bank representing 6.1 days supply.

Mr. Kendall observed that military passenger transportation movements are continuing on a reduced basis. He pointed out that while all Office of Defense Transportation restrictions against passenger reservations on trains have been cancelled, there still remains I. C. C. Service Order No. 213 which became effective June 27, 1944, and which provides for transportation priority for disabled members of the armed forces. The order will expire March 8, 1947. Reference also was made to the new Pullman regulations governing the redemption of sleeping car tickets, as noted in *Railway Age*, July 6, page 26.

Fewer Usable Cars—Another section of the report revealed that 771 embargoes have been placed against consignees from January 1 through August 12, as compared to 747 in the corresponding 1945 period and 773 in 1944. Of this year's total, 473 were initiated by the C. S. D. and the remainder by the railroads. By direction of the O. D. T., C. S. D. Embargo 435 was placed on August 12 against all export freight consigned to or intended for the Department of Agriculture at all U. S. ports except those on the Pacific Coast. Under this embargo, it was explained, livestock, livestock feed, including hay and straw, and bulk grain are exempt.

Chairman Kendall also reported that the number of serviceable cars as of August 1 totaled 1,667,776, as compared to 1,705,131 on August 1, 1945, and 1,701,259 on August 1, 1944. There were 3,312 new cars installed during July, as compared with 2,991 in July, 1945, and 3,343 in July, 1944. A total of 79,992 cars, or 4.7 per cent of all freight cars, were awaiting repairs as of August 1, as compared with 67,536 cars or 3.9 per cent on the same date last year. Of the 3,312 cars installed during July, 1,477 were box and 1,201 open top.

Shipments of revenue freight, according to another section of the report, amounted to 24,220,442 cars from January 1 through August 10, a decrease of 8.2 per cent under the same 1945 period. There were increased shipments of live stock and l.c.l. freight, but decreased shipments of grain and grain products, coal, coke, forest products, ore and miscellaneous commodities. Box car loadings for the four-week July period totaled 1,484,392, as compared to 1,527,034 in the four-week June period.

Club Meetings

The Canadian Railway Club will hold its annual smoker at the Mount Royal hotel, Montreal, on September 9, 8 p. m.

The Northwest Car Men's Association will meet September 9, at 8 p. m., at the Midway Club, St. Paul, Minn. A paper will be presented by the Vapor Car Heating Company.

The New York Division of Railroad Enthusiasts will meet August 28, 7:45 p.m., in Room 5930, Grand Central Terminal, New York. Colored slides of narrow-gage railroading, taken last month in Colorado, will be shown.

Legislators Promise New Bill Similar to S. 1253

A promise to draft and introduce at the next session of Congress a broadened version of the now deceased Wheeler-Reed bill, S. 1253, which was pocket-vetoed on August 13 by President Truman (as noted in *Railway Age*, August 17, page 305) was contained in a statement issued jointly on August 14 by Senators Reed, Kansas Republican, and Tunnell, Delaware Democrat, and Representatives Reed, Illinois Republican, and Hobbs, Alabama Democrat. According to the statement, the proposed legislation would "meet the requirements of the President's objections" to S. 1253.

Pointing out that the Wheeler-Reed bill was the "culmination of over three years of intensive effort to save two billion dollars of investments made by hundreds of thousands of stockholders and junior bondholders in railroads now in process of reorganization under Section 77 of the Bankruptcy Act," the legislators declared that those investments will be wiped out under pending plans of reorganization unless legislation similar to the Wheeler-Reed bill is enacted to prevent it.

"Those who have supported this legislation will be definitely heartened by the declaration of principles contained in the President's memorandum stating why he withheld his signature from the bill," the statement commented. "For it is clear that the broad principles announced by the President are shared by the proponents and supporters of this legislation. Broadening of the bill to meet the requirements of the President's objections can and will be drafted. Such a bill will be promptly introduced at the next session of Congress. As Congress has already overwhelmingly committed itself to such legislation and the President has declared that he, too, favors its purposes, the prompt enactment of such a measure appears certain."

The legislators observed that "months before" S. 1253 came up for a vote in either the House or Senate, a number of courts and the Interstate Commerce Commission "recognized the appropriateness of cooperating with Congress" in meeting "this public problem" and "abstained from taking steps which would have carried forward any pending reorganization plans under Section 77."

"Now that the legislation . . . was passed by an overwhelming vote . . . and the objectives of the legislation have received the approbation of the President," the statement concluded, "it is confidently hoped that the courts and the commission will take no steps in support or furtherance of pending reorganization plans under Section 77, but will instead await action by the Congress and the President on legislation giving effect to the principles favored by both."

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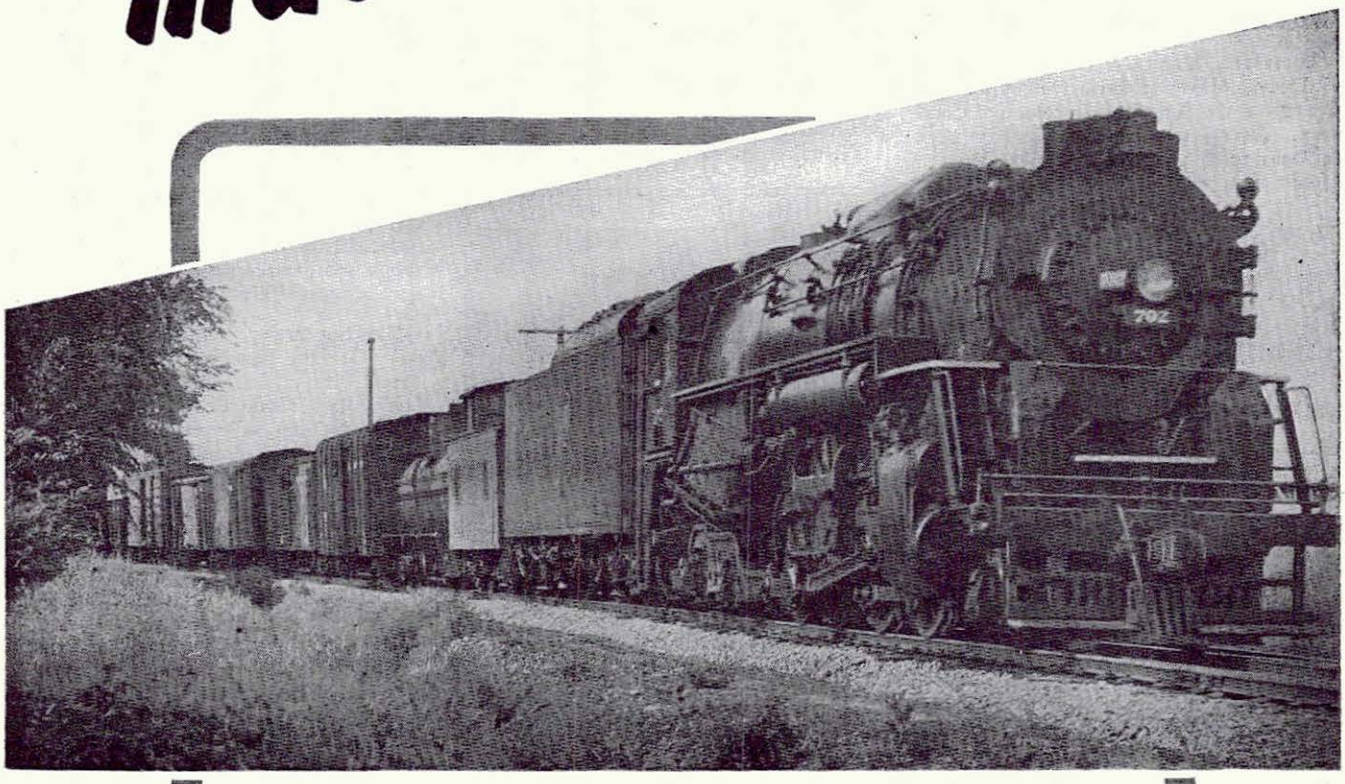
WHEN FREIGHT...

must move fast



Over half the freight tonnage of the Detroit, Toledo and Ironton carried in 1945 consisted of partially or completely manufactured products, much of which called for fast transportation and prompt deliveries.

An important factor in enabling the D. T. & I. to maintain the necessarily fast schedules, with heavy trains, was its fleet of eighteen modern Lima-built steam locomotives placed in service during recent years.

LIMA LOCOMOTIVE WORKS INCORPORATED, LIMA, OHIO

Equipment and Supplies

LOCOMOTIVES

The KANSAS CITY SOUTHERN has ordered five 6,000-hp. four-unit Diesel-electric freight locomotives; two 3,000-hp., two-unit Diesel-electric passenger locomotives; and twelve 1,000-hp. Diesel-electric switching locomotives from the Electro-Motive division of the General Motors Corporation. Delivery of these locomotives is scheduled for mid-1947.

The GULF, MOBILE & OHIO has ordered 45 1500-hp. Diesel-electric freight locomotives from the American Locomotive Company. Twenty-two of these units have been delivered and placed in service between Mobile, Ala., and St. Louis, Mo.

Among the first of a new line of 1,500-hp. Diesel-electric freight locomotives now on a mass-production basis at the Schenectady (N. Y.) plant of the American Locomotive Company, 22 of these machines have been delivered to the Gulf, Mobile & Ohio on an order for 45 units

The KANSAS CITY SOUTHERN has ordered one 4-unit, 8,000-hp., Diesel-electric freight locomotive from Fairbanks, Morse & Co. The new locomotive which will be geared for a maximum speed of 65 m.p.h., will be used in the mountainous section of the line between Pittsburg, Kan., and De-Queen, Ark. Delivery of the 259-ft. 4 in., 1,250,000-lb. machine is scheduled for November.

FREIGHT CARS

Illinois Central Announces Car Shop Schedule

The current schedule of the Illinois Central's car shops at Centralia, Ill., calls for the production of 1,750 new freight cars before April 1, 1947, it has been announced. The first lot of cars to be produced will consist of 300 steel automobile box cars equipped with wrought steel wheels of the passenger car type. The remainder of the schedule includes 500 standard box cars, 500 flat cars and 450 hopper cars.

A succeeding program for 1947, the announcement said, is expected to include 500 additional automobile box cars and 1,000 more standard box cars, as well as 400 hopper cars which the road has ordered for early 1947 delivery.

The ATCHISON, TOPEKA & SANTA FE has ordered 1,000 all-steel, 40-ft. 6-in., 50-ton box cars from its company shops. Inquiry for this equipment, as well as for 750 additional cars for which orders have not yet been placed, was reported in the *Railway Age* of August 10.

The BALTIMORE & OHIO is inquiring for 1,000 50-ton 40-ft. 6-in. steel box cars.

The WESTERN MARYLAND is inquiring for 500 55-ton 31-ft. steel hopper cars.

The SOUTHERN PACIFIC is inquiring for 1,000 50-ton 40-ft. box cars which are to be steel-sheathed and wood-lined.

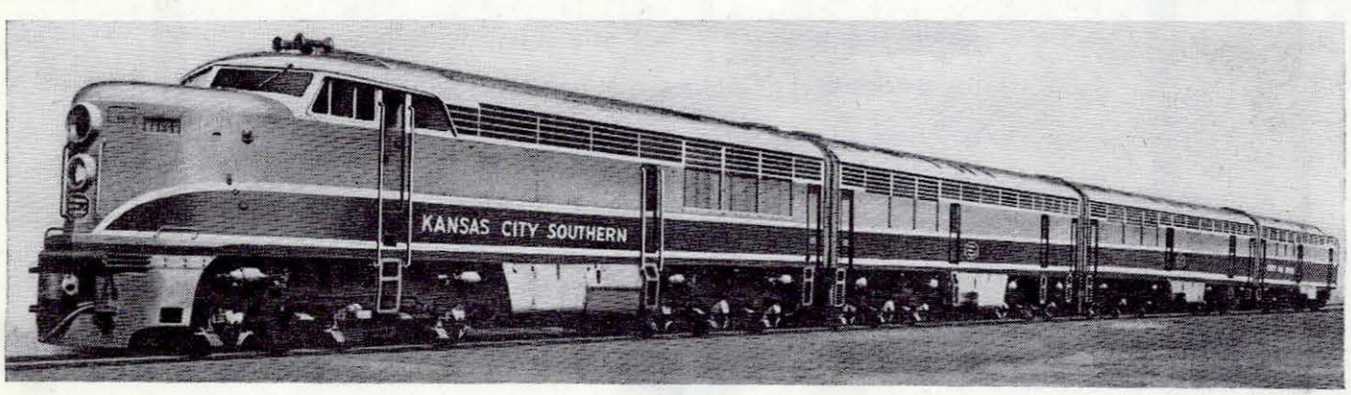
The WESTERN PACIFIC has ordered 250 all-steel box cars from the Pressed Steel Car Company to be manufactured at the company's Mt. Vernon (Ill.) plant. Total cost of the cars is estimated to be $1,050,000. Inquiry for these cars was reported in the *Railway Age* of June 29.

Of the 17,172 freight cars ordered for domestic service during the first six months of 1946, 13,492 were ordered from contract builders and 3,680 were ordered from railway company shops. The number of cars ordered from contract builders and railroad shops was incorrectly reported in the *Railway Age* for July 20.

The SOUTHERN, acting for itself and as agent for the Cincinnati, New Orleans & Texas Pacific, the Florida East Coast, the Louisville & Nashville, the Atlanta & West Point, and the Western of Alabama has ordered 5 mail-baggage cars and 71 sleeping cars from the Pullman-Standard Manufacturing Co.; 9 dining cars, 26 coaches and 6 lounge-coaches from the Budd Company, and 4 baggage-dormitory cars, 3 lounge-bar cars, 2 dining cars, 3 mail-baggage cars and 11 coaches from the American Car & Foundry Company. Of the new equipment, 18 of the 23 cars ordered from American Car & Foundry will be of aluminum construction, and the remaining 122 cars will have stainless steel exteriors. The decision to purchase this equipment was reported in the *Railway Age* for July 20, page 108.

Construction

READING.—This road has awarded a contract to the Geo. A. Fuller Company, Baltimore, Md., for an engine house extension at Rutherford, Pa. The estimated cost of this project is $150,000. The Brann & Stuart Co., Philadelphia, Pa., received a contract for lining a tunnel at Lofty, Pa., the estimated cost for which is $60,000. A



New 8,000-hp. 4-unit Diesel-electric locomotive to be built by Fairbanks-Morse for the Kansas City Southern

News Department continued on next left-hand page

WITH recently increased cost of locomotive fuels playing such an important part in the great rise in train operation costs, it is especially important at this time to study the fuel-saving possibilities of the Franklin System of Steam Distribution.

Application of this system to your existing or new locomotives *will* offset rising fuel costs.

The Franklin System of Steam Distribution, using poppet valves in place of piston valves, increases the efficiency of transforming steam into horsepower-hours. At normal operating speeds, for either freight or passenger locomotives, the increase in horsepower output will be 20% to 40% for the same steam consumption. For the same power output, fuel savings will be even more pronounced, have reached 45%.

We would like to show you how this can be done on your locomotives — either existing or new — for either freight or passenger service.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

contract was given to the American Bridge Company, Philadelphia, for supplying and constructing new steel superstructures for bridges 0/68 and 0/84 at Clement, Pa. The estimated cost of this job is $60,000.

BALTIMORE & OHIO.—This road has awarded two contracts to the Bates & Rogers Construction Corp., Chicago, for work in the Barr yard at Riverdale, Ill. The first project involves the construction of a turntable foundation at an estimated cost of $44,000, and the second project consists of work on car repair buildings at an estimated cost of $37,700.

Financial

CHESAPEAKE & OHIO.—*Equipment Trust Certificates.*—This road has awarded, subject to Interstate Commerce Commission approval, an issue of $1,750,000 of serial equipment trust certificates of 1946 to Halsey, Stuart & Co., Inc., and associates on their bid of 99.517 for 1½ per cent obligations. The bid represents a net interest cost basis to the company of approximately 1.593 per cent. The certificates, to be dated August 1, 1946, will mature in ten equal annual installments of $175,000, payable August 1 of each year, starting in 1947, and are to be issued to finance in part the purchase of 790 50-ton steel hopper cars, to cost approximately $2,246,049.

DENVER & RIO GRANDE WESTERN.—*Reorganization.*—United States Supreme Court Justice Stanley Reed, at his home in New York this week, denied an application by the road for a further stay of the Supreme Court's refusal on June 10 to make any change in the reorganization plan. Two petitions for a rehearing of the case remain to be disposed of by the court when it meets in its October term.

FT. WORTH & DENVER CITY.—*Promissory Notes.*—This road has applied to the Interstate Commerce Commission for authority to assume liability for $163,224 in promissory notes to further evidence the indebtedness it will assume under a conditional sales agreement by which it plans to purchase two 1,000-hp. Diesel-electric switching locomotives at $90,680 each from the Electro-Motive Division of General Motors Corporation.

RAILWAY EXPRESS AGENCY.—*Two Directors Elected.*—John H. Keefe, vice-president of the Atchison, Topeka & Santa Fe, and Paul J. Neff, chief executive officer of the Missouri Pacific, have been elected members of the board of directors of the Railway Express Agency. Mr. Keefe succeeds Fred G. Gurley, who has resigned, and Mr. Neff replaces the late L. W. Baldwin.

SEABOARD AIR LINE.—*Annual Report.*—Operating revenues of this road in 1945 totaled $130,210,498, compared with $141,188,977 in the preceding year. Operating expenses amounted to $111,303,778, compared with $88,939,443. Railway tax accruals were $3,208,295, compared with $24,797,395. Fixed interest charges were $18,904,193, compared with $16,438,163. The net deficit for the year was $10,472,057, compared with net income of $5,242,492.

Average Prices Stocks and Bonds

	Aug. 20	Last week	Last year
Average price of 20 representative railway stocks..	61.51	62.16	50.77
Average price of 20 representative railway bonds..	97.68	97.99	95.41

Dividends Declared

Canadian Pacific.—50c, payable October 1 to holders of record August 26.

North Pennsylvania.—Quarterly, $1.00, payable September 10 to holders of record September 2.

Philadelphia, Germantown & Norristown.—Quarterly, $1.50, payable September 4 to holders of record August 20.

Pittsburgh, Youngstown & Ashtabula.—7% preferred, quarterly, $1.75, payable September 3 to holders of record August 20.

Southern Pacific. — Quarterly, $1.00, payable September 16 to holders of record August 26.

Virginian.—Common, quarterly, 62½c, payable September 24 to holders of record September 10; and 6% preferred, quarterly, 37½c, payable as follows: November 1 to holders of record October 15, February 1 to holders of record January 15, May 1 to holders of record April 15, and August 1 to holders of record July 15.

Supply Trade

Finland to Import Equipment

The number of freight cars in operation in Finland is about 30 per cent below the number in use before the war and a daily shortage of 2,500 to 4,000 cars is reported, according to "Foreign Commerce Weekly," a publication of the Bureau of Foreign and Domestic Commerce of the United States Department of Commerce. About 100 of the 745 locomotives in use were built before 1900 and nearly 20 per cent of all locomotives are undergoing repairs at all times. The rolling stock of the State Railways was increased in 1945 by 102 passenger cars, 741 freight cars and 8 locomotives. A yearly production of 22 locomotives is possible when raw materials and equipment are available and plant capacities are fully utilized, but the output this year probably will be only one half that figure. Under present conditions, Finland will have to import rails, steel sheets, steel shapes, wheels and axles.

D. E. McGuire, formerly assistant to the general works manager, has been appointed chief engineer of the **Great Lakes Steel Corporation.**

Robert C. Myers has been appointed assistant manager, market development division of U. S. Steel's **Carnegie-Illinois Steel Corporation** sales department.

V. H. Hribar, who has been on leave of absence to serve with the armed forces, has returned to his position of chief chemist of the **American Lumber & Treating Co.,** Chicago.

Walton R. Collins, president of the Walton R. Collins Company, has been appointed railroad representative for **Hanson & Wilson Co.,** Pittsburgh, Pa., for a number of eastern railroads.

Jack A. McConnell, former employment and personnel manager for the Delco products division of the General Motors Corporation, has been appointed sales representative in the Columbus, Ohio, territory for the **Automatic Transportation Company,** 149 West 87th street, Chicago 20, manufacturers of electric propelled material handling equipment.

R. S. Slater has been appointed manager of tank car sales for the **American Car & Foundry Co.** Mr. Slater will be in charge of the sales of tank cars, storage tanks and pressure vessels, and will continue to make his headquarters in New York.

Born in East Orange, N. J., Mr. Slater was educated in the schools of that community. He joined American Car & Foundry in 1923 as expediter in the material assembly division of the purchasing department in New York. In 1935, he transferred to the sales department and in 1936 was appointed sales agent in the New York sales department.

R. S. Slater

R. P. McKenzie has been appointed assistant manager of the railroad materials department of the **Georgia Hardwood Lumber Company,** under the direction of L. U. West, vice-president and manager of the department. Mr. McKenzie joined the firm in 1945 as a field representative and buyer in South Carolina. He is exceptionally qualified for railroad materials work, the announcement said, having had much experience with a large creosoting company as assistant general superintendent in charge of all buying and production operations of six plants. The railroad materials department has added a line of treated and un-

R. P. McKenzie

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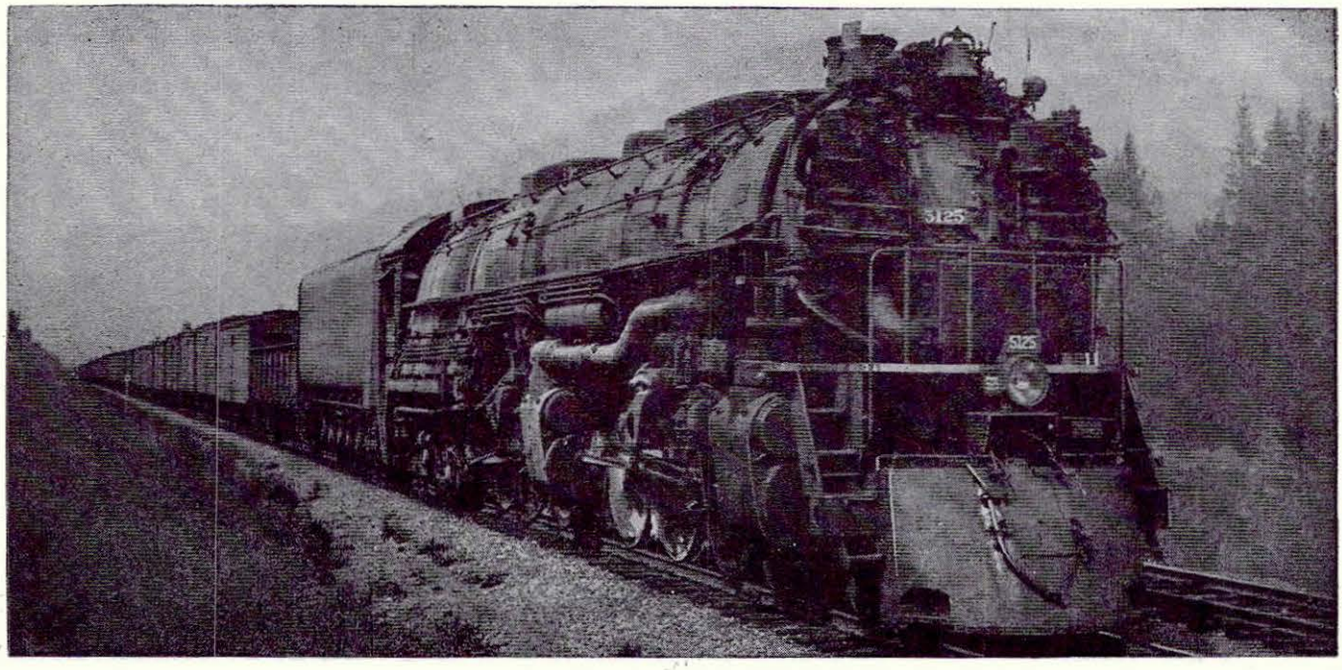
Maximum Ton-Miles

from each tender load of coal

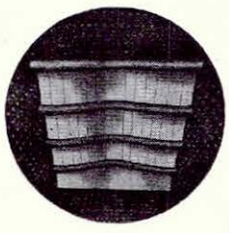


To make certain of securing the greatest possible ton-mileage from the coal consumed, be sure the locomotive is equipped with a complete brick arch at all times.

Even considering fuel cost alone, it is unprofitable to operate any locomotive without a complete arch.

For thirty-six years the fuel-saving and power-increasing advantages of Security Sectional Arches have been demonstrated on locomotives of all types.

HARBISON-WALKER REFRACTORIES CO.
Refractories Specialists



AMERICAN ARCH CO. INC.
60 East 42nd Street, New York 17, N. Y.
Locomotive Combustion Specialists

treated poles, piling and cross ties to its many products for railroads.

Robert E. Frame, president of Standard Car Sales, Inc., and vice-president of the Standard Car Truck Company, whose death on August 7 was reported in the *Railway Age* of August 17, was born at Chicago on August 28, 1877, and received his education in the public schools there. He enlisted in the United States Army during the Spanish war, and in 1900 he entered the employ of the Pullman Company. He resigned as freight car estimator in September, 1904, to go with the American Car and Foundry Company in a similar capacity, with headquarters at St. Louis, Mo. By 1909 he had progressed to the position of mechanical superintendent, with supervision over the drafting and estimating departments, and was then promoted to sales engineer at Chicago. In 1912 Mr. Frame resigned to become assistant to the president of the Haskell and Barker Car Company, Michigan City, Ind. In September, 1923, he resigned from the Pullman Car & Manufacturing Co., (successors to Haskell and Barker) to become one of

Robert E. Frame

the founders of the Central Brake Shoe & Foundry Co. Six years later this firm was absorbed by the American Brake Shoe & Foundry Co., and Mr. Frame became associated with the Standard Car Truck Company. In 1939 he founded Standard Car Sales, Inc., of which he later became president, and in 1941 he was elected vice-president of Standard Car Truck.

Warren H. Farr, vice-president of the former Budd Wheel Company, has been appointed vice-president in charge of manufacturing of the **Budd Company,** with headquarters in Philadelphia, Pa. A veteran of the Budd production organization with nineteen years service, Mr. Farr, in his new capacity, will be in charge of manufacturing in the Detroit, Mich., and Philadelphia automotive plants, and the railway car plant in Philadelphia.

As an engineer and works manager, Mr. Farr's experience brackets the history of the automotive industry. He was a young engineer working for Buick soon after the company began the manufacture of automobiles. He also took part in the engineering development of the Chevrolet, Durant six, the Sheridan car and the Sampson tractor, and was with Studebaker for three years before W. C. Durant drafted him during the creation of the Chevrolet Motor Company. Mr. Farr was works manager for the Flint Motor Company when he joined Budd in 1927.

Edward C. Budd, president of the com-

Warren H. Farr

pany, in announcing the appointment, said Mr. Farr would direct all the the company's production which is now being expanded to turn out the substantially increased volume of postwar business on its books. The present backlog of unfilled orders exceeds $159,000,000 of which $100,000,000 is business for the automobile industry, and $54,000,000 represents orders for more than 600 stainless steel railway passenger cars, including the new Budd sleeping cars.

Howard Oxsen has been promoted to manager of the Seattle (Wash.) branch of **Fairbanks, Morse & Co.** He succeeds **John F. Marquitz,** who will be assigned new duties elsewhere.

Brown & Hubert, Inc., Evansville, Ind., has been appointed distributor of **Davey Compressors,** it has been announced by Paul H. Davey, president, Davey Compressor Co.

George B. Coffey has been appointed manager of the Chicago division of the **A. M. Byers Company,** with offices in the

George B. Coffey

Conway building. He succeeds **W. A. Taylor,** who has resigned to enter private business.

A native of Freedom, Ind., Mr. Coffey was graduated from the University of Indiana in 1924. He has been with A. M. Byers since 1930. Mr. Coffey is president of the Bridge & Building Men's Association and a member of the American Society of Heating and Ventilating Engineers.

Douglas C. Lynch has been appointed assistant general manager of the **Westinghouse Electric International Company.** He will be succeeded as manager of the special projects department by **Robert Russell,** formerly assistant manager of the department.

OBITUARY

William Martin Wampler, president of the Ellcon Company and the National Brake Company, Inc., and eastern sales manager for the Morton Manufacturing Company, died in St. Elizabeth's Hospital, New York, on August 18. He was 79 years old. Born in Putneyville, Pa., Mr. Wampler began work in the operation and maintenance departments of various street railways in 1891, serving successively with the Federal Street & Pleasant Valley Railway Company, the Duquesne Traction Company of Pittsburgh, Pa., the Union Company of New York and the Atlantic Avenue

W. M. Wampler

Railroad Company of Brooklyn. From 1894 to 1898 he was assistant superintendent and superintendent of rolling stock for the People's Traction Company and the Union Traction Company of Philadelphia. In 1899, Mr. Wampler joined the Allentown & Lehigh Valley Traction Co. of Allentown, Pa.

Entering the railway supply business in 1900 as a salesman of car trucks for the Peckham Motor Truck & Wheel Co., Kingston, N. Y., Mr. Wampler, in 1901, joined Stuart-Howland of Boston, Mass., as New York sales representative. He returned to Peckham Motor in 1902 as vice-president in charge of sales, which position he held until 1906 when he was appointed sales manager, truck department, American Locomotive Company. With American Locomotive until the organization of the Ellcon Company in 1910, Mr. Wampler was elected vice-president of National Brake in 1928 and president in 1940. A Mason and an Elk, he was a member of the Railroad Machinery Club of New York, the New York Railroad Club, the New England Railroad Club, the New York Electrical Society and the Engineers' Club, New York.

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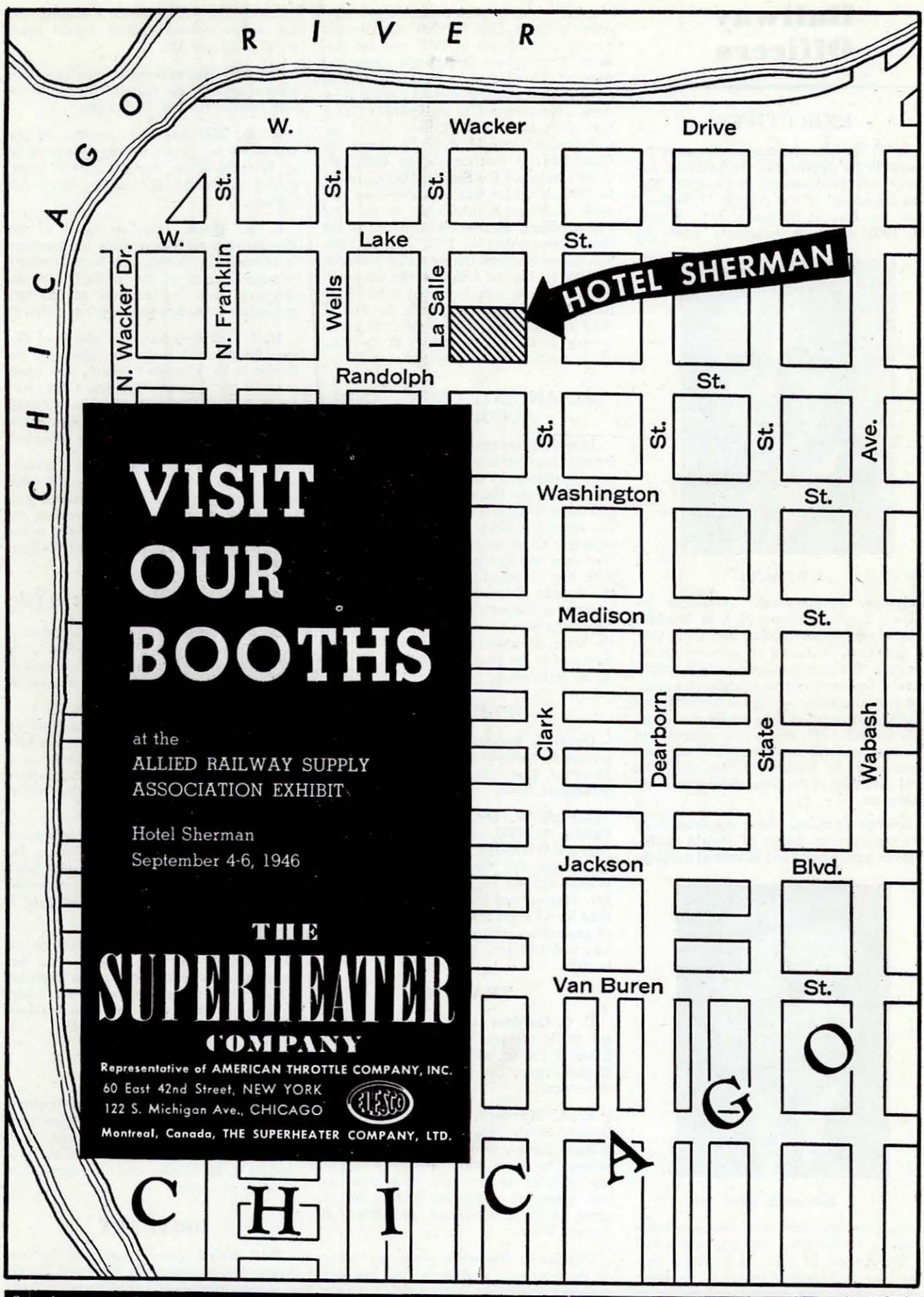

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Railway Officers

EXECUTIVES

J. W. Smith, whose appointment as assistant to the president of the Seaboard Air Line, with headquarters at Norfolk, Va., was announced in the August 17 *Railway Age,* was born at Baltimore, Md., on July 20, 1900, and was graduated from the

J. W. Smith

University of Maryland. He began his railway career in April, 1924, at Norfolk, joining the Seaboard later that same year at Columbia, S. C., as an engineering inspector. He served subsequently throughout the Seaboard system, in capacities ranging from inspector to superintendent, then was named assistant chief engineer at Norfolk in 1945. Mr. Smith was promoted to assistant general superintendent at Savannah, Ga., in January of this year, and held that post at the time of his recent appointment.

George B. Rice, whose appointment as vice-president in charge of freight traffic, express, agricultural and industrial develop-

George B. Rice

ment of the Seaboard Air Line, with headquarters at Norfolk, Va., was announced in the August 17 issue of *Railway Age,* was born at Tappahannock, Va., on January 19, 1885. He entered railroading in 1901, with the Southern, joined the Seaboard Air Line in 1904, then went with the Atlantic Coast Line in 1906, the Georgia Southern & Florida in 1907, and the Atlanta, Birmingham & Atlantic (now the Atlanta, Birmingham & Coast) in 1908, serving these roads in various clerical positions. He returned to the Southern as a rate clerk later in 1908, then joined the Carolina, Clinchfield & Ohio (now the Clinchfield) in that capacity in 1909, and, in 1911, rejoined the Seaboard permanently. In 1920, Mr. Rice was advanced from rate clerk to assistant chief clerk to the first vice-president, then became assistant to the first vice-president in 1922, and, in 1926, was named assistant freight traffic manager. In 1929 he became freight traffic manager, and in 1936 he was appointed head of the freight traffic department with the title of chief freight traffic officer. Mr. Rice was serving in the latter capacity at the time of his election as vice-president.

FINANCIAL, LEGAL AND ACCOUNTING

Joseph Stevenson, whose retirement as freight claim agent of the Canadian Pacific, with headquarters at Calgary, Alta., was reported in the *Railway Age* of August 3, was born in Ireland on December 11, 1880. He entered railway service in May, 1897, with the Great Northern railway of Ireland, and on November 1, 1906, he went with the Canadian Pacific as a clerk in the freight claim department with headquarters at Calgary. Three years later Mr. Stevenson was promoted to chief clerk of the same department, and in 1928 he was advanced to the position he held at the time of his retirement.

OPERATING

Oscar J. Donaghy, chief supervisor of perishable traffic of the Canadian Pacific at Montreal, Que., has been promoted to car accountant there.

Joseph W. Hevron, who retired on October 31, 1942, as superintendent of the Springfield division of the Illinois Central, at Clinton, Ill., died at Macon, Mo., on August 18. At the time of his retirement, Mr. Hevron had been an employee of the road for 43 years and had held the positions of general superintendent at New Orleans, La., and Chicago, respectively, from 1924 to 1939.

TRAFFIC

C. C. Gardner, assistant to the passenger traffic manager of the Chicago, Rock Island & Pacific, with headquarters at Des Moines, Iowa, has retired after 48 years of service.

E. A. Maynard, general agent of the Duluth, South Shore & Atlantic and the Mineral Range, who has been on leave of absence to serve with the armed forces, has returned to the two roads and has been promoted to general western freight agent, with headquarters as before at Seattle, Wash.

Charles C. Bostwick, commercial agent on the Southern, at Atlanta, Ga., has been promoted to district freight and passenger agent, with headquarters at Montgomery, Ala., succeeding **Andrew D. Fleming,** who has been appointed district freight agent at Birmingham, Ala.

John S. Hunsaker has been appointed general agent of the Kansas City Southern, with headquarters at Joplin, Mo.

R. G. McClure has returned to the Wabash in his former post as general agent at Winston-Salem, N. C., after 3 years' service in the United States Army Air Corps.

L. R. Hahn, traveling agent of the Missouri-Kansas-Texas, with headquarters at Minneapolis, Minn., has been promoted to general agent of the road's freight department, with headquarters at Chicago, succeeding **L. A. Moone,** who has resigned.

H. L. Johnson has been appointed district freight and passenger agent on the Denver & Rio Grande Western, with headquarters at Colorado Springs, Colo., succeeding **F. E. Nemec,** who has resigned. The position of district passenger agent, formerly held by Mr. Nemec, is abolished.

Charles W. Haynes, assistant general passenger agent of the Chesapeake & Ohio at Richmond, Va., has been appointed general passenger agent there, succeeding the late **Omar N. Spain,** a biography of whom appeared in the May 11 issue of *Railway Age.*

ENGINEERING & SIGNALING

G. E. Stewart has been appointed division engineer of the Portland division of the Southern Pacific, with headquarters at Portland, Ore., succeeding **G. Hazelton,** assigned to other duties.

P. B. Burley, electronics engineer on the Illinois Central, at Chicago, has been appointed assistant superintendent communication, with the same headquarters, succeeding **G. K. Phillis,** who has retired on account of ill health.

Glenn E. Tracey, signal maintainer of the New York, Ontario & Western, has been appointed signal engineer, with headquarters at Middletown, N. Y., succeeding **H. H. Shannon,** who has retired after 38 years of service.

D. A. Sipe, supervisor of track on the Pennsylvania, at East Liberty, Pa., has been appointed assistant division engineer, with headquarters at Pittsburgh, Pa., where he succeeds **D. Davis, Jr.,** who has been incapacitated for an indefinite period.

SPECIAL

A. B. Glasebrook has been appointed superintendent of the San Francisco division of the Railway Express Agency, with headquarters at San Francisco, Cal., succeeding **S. M. Heck,** who has retired after 42 years of service.

OBITUARY

Neil Baird, general agent in the passenger department of the Northern Pacific at Washington, D. C., died there on August 16, aged 61, after 41 years of service.

News Department continued on next left-hand page

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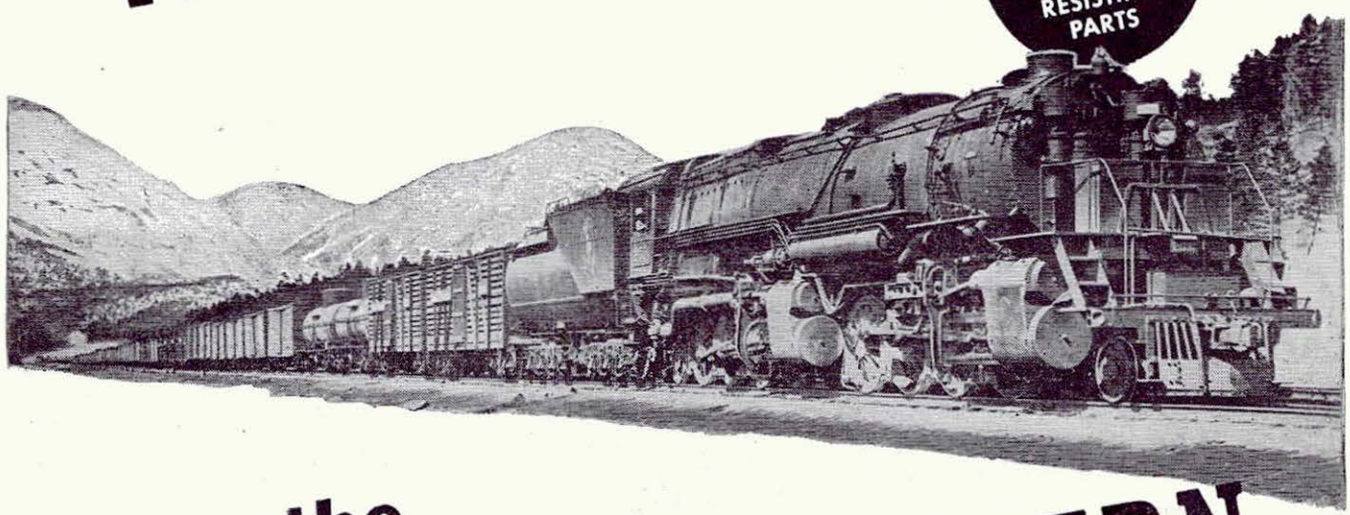

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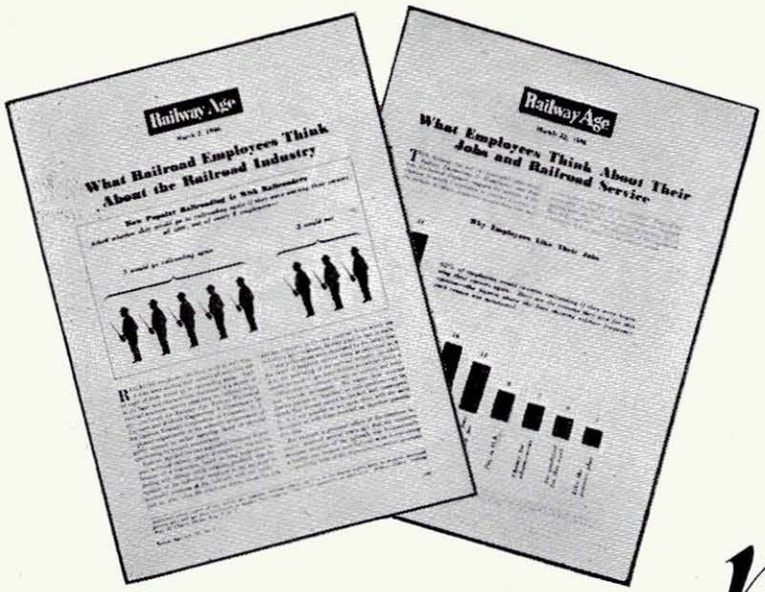
Railway Age
What Railroad Employees Think About the Railroad Industry
Railway Age
What Employees Think About Their Jobs and Railroad Service

Railway Age Survey Makes News!

STUDY OF EMPLOYEE OPINION STIRS AMAZING INTEREST AND DEMAND FOR REPRINTS—MARKING ANOTHER PUBLISHING MILESTONE IN BEHALF OF RAILWAY PROGRESS

Early this year the *Railway Age* engaged the services of the Opinion Research Corporation to conduct a nation-wide survey among railroad employees to determine their viewpoint regarding the railroads and how they feel about their work.

The objective of this survey was to substitute scientific fact for guesswork in determining management policy regarding the vital factor of employee relations. The importance of this survey was recognized in all quarters because of the lack of definite information as to what railway workers thought of their industry, and their opinion about its economic position.

Interest and comment rose to unexpected heights. Requests for copies were received from all parts of the country, including all major railroads. A number of roads took definite action to use the information in their employee relations. Distribution of copies in response to these requests totaled nearly 38,000 for both the first and second section of the study. Facts brought out by the survey were reported in newspapers, cited in letters from railroad executives, in speeches, and very recently in a feature article in the Saturday Evening Post.

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Railway Age

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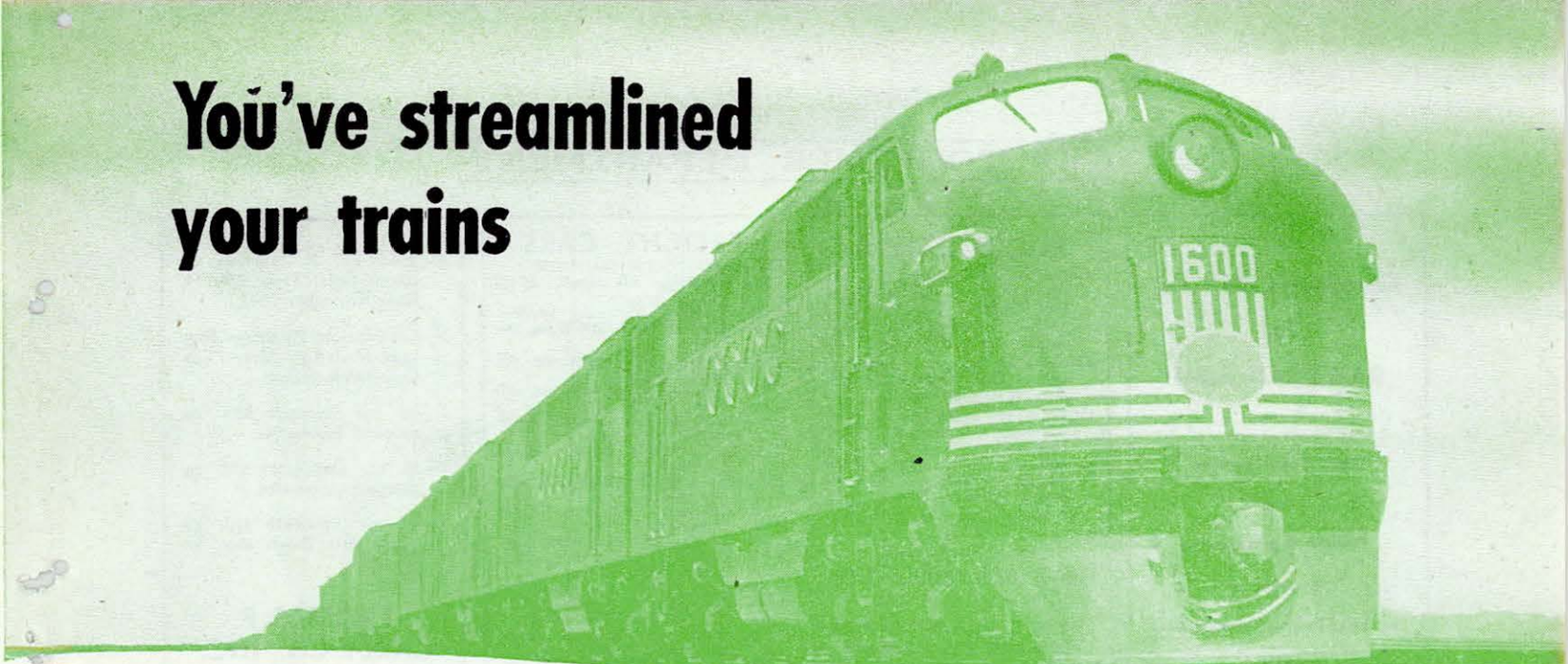

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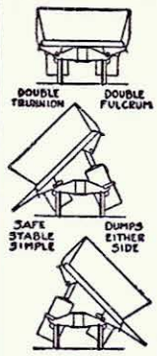

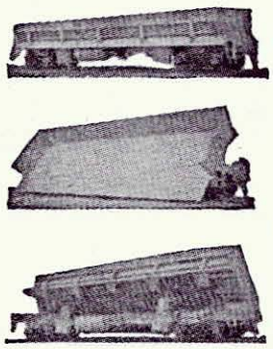

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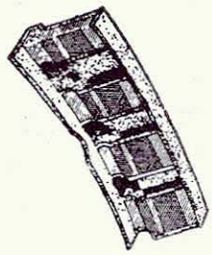

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